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THE BLAAUWBOK (*HIPPOTRAGUS LEUCOPHÆUS*).

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(PLATE III.)

THE astonishing fecundity of many animals has for long years been a subject of interest to the zoologist, though unfortunately too often a curse to the colonist and to the farmer. The species possessing this marvellous vitality flourish even under the most adverse circumstances, in spite of the attacks of countless enemies, even when man himself is added to the list of destroyers—such species as the White Cabbage Butterflies amongst insects, the Herring amongst fishes, the House-Sparrow amongst birds, and Rats and Rabbits amongst the Mammalia.

On the other hand, to-day we deplore the loss of many fine animals, some of which have perished from unknown causes, or from natural changes in their environment; the remainder, alas! have been directly harried out of existence by man, either for food—for the sake of the paltry commercial value of their skins or carcases—or (still less excusably) in sheer wasteful wanton destruction, the hunters killing for killing's sake. How far these mournful results might have been avoided it is impossible now to say, but the facts remain. Never again will the gigantic Moa (*Dinornis* sp.) wander through the ferny solitudes of

New Zealand, its towering Ostrich-like head carried twelve feet high as it strides with ponderous gait over the limestone slopes; never again will the Dodo (*Didus ineptus*), rotund and ungainly, waddle through the forest glades of Mauritius; and never again will the surf-beaten rocks of Geirfuglaskér resound with the clamour of swarming multitudes of Great Auks swimming and diving in the foam, or sitting in line on the slippery ledges like regiments of gigantic Razorbills. Steller's Sea-Cow (*Rhytina gigas*) no longer blackens the shallows round Behring's Island, lazily browsing on the laminaria; the true Quagga (*Equus quagga*) no longer gallops over the spreading veldt in close-packed masses, accompanied by herds of lumbering Wildebeeste; and the American Bison, once monarch of the prairies, now finds a tardy refuge from extermination in the parks and zoological gardens of civilized man.

It has long been noticed that the first species to disappear are those of large size and limited range, being more conspicuous, and also relatively fewer in individuals than smaller and cosmopolitan forms. Thus the great Copper Butterfly (*Chrysophanus dispar*), once abundant in our own fenland (but in its typical form known nowhere else), has been extinct since 1860; the Solitaire of Rodriguez might still have existed had it not been a gigantic Pigeon good to eat and unable to fly; and the more than decimated White Rhinoceros might have been better represented than by a few survivors in Mashonaland and the Zululand preserves had it possessed the diminutive proportions and inhabited the mountain fastnesses of the Cape Hyrax.

Amongst the vanished Mammalia was a beautiful Antelope—the Blaauwbok (*Hippotragus leucophæus*)—formerly inhabiting the province of Swellendam, in Cape Colony, but since 1800 at latest utterly extinct. So early was this fine animal exterminated, and so rare are its remains in museums to-day, the most recent being of necessity over a century old, that but very little is known about it; and for every zoologist who has heard of the Blaauwbok, there are probably five hundred who have heard of the Great Auk and the Norfolk Island Parrot. The Blaauwbok stood about 40 or 45 in. high at the withers, as far as can now be ascertained; it carried a handsome pair of curved horns adorned with well-marked annulations, and terminating in sharp



points; it was bluish grey above (the coat showing a beautiful velvety appearance during life), and snow-white beneath, there being no marked demarcation between the colours: indeed, Le Vaillant says that when seen from a distance the living animal appeared to be entirely white. The Blaauwbok derived its specific name *leucophæa* from a whitish spot just in front of and beneath the eye; the anterior surfaces of the limbs were darker than the posterior. The ears were rather long; the neck bore a very short mane, reversed like that of an Oryx Antelope.

An alleged change of colour in the skin of the Blaauwbok after death has given rise to some comment. Pennant, in his 'History of Quadrupeds,' says:—"Colour, when alive, a fine blue of a velvet appearance; when dead changes to bluish grey with a mixture of white." Dr. Sparrman, who travelled in South Africa during 1772-1776, in mentioning the Blaauwbok, observes: "On this subject the reader may likewise turn to Mr. Pennant's Blue Antelope"; and also says: "The colour of this creature when alive is said to resemble that of blue velvet, but when it is dead it is of a leaden colour." Le Vaillant, who obtained a Blaauwbok bull in December, 1781, states that the colour of the animal was faint blue inclining to grey, with snow-white belly, the head being above all beautifully spotted with white; but, he adds ('Travels in Africa,' vol. i. p. 132), "I did not observe, as Dr. Sparrman says, that this Antelope when alive resembles blue velvet, and that when dead the skin changes its colour; living or dead it appeared to me always alike. The tints of that which I brought with me never varied."

At first sight it would thus seem that the statement of Le Vaillant contradicts that of Sparrman, and also indirectly that of Pennant; but we must remember that in some Antelopes, such as Eland and Kudu, the hair becomes so scanty that the bluish hide shows beneath it in old age; and this hide, after *post-mortem* drying, becomes black or "leaden colour." Further, this change due to drying is actually recorded by Sir Cornwallis Harris as taking place in the Roan Antelope, the nearest living ally of the Blaauwbok, and we may therefore well assume that Le Vaillant expected to see some conspicuous change in the *hairy covering* itself due to chemical or other causes, such as has

been observed to take place in the lilac breast-feathers of the newly-dead Gouldian Finch (*Poephila gouldiæ*). If the first two or three Blaauwbok obtained were infirm old bulls, easily dispatched by the uncertain and primitive weapons of the old days, we can reasonably infer that the hide, denuded through age of most of the original hairy covering, would appear conspicuously bluish during life, and conspicuously black after *post-mortem* drying, and thus originate the colour-change legend.

We can in these latter times form only a *general* idea of the habits of the Blaauwbok with the slender aid of analogy and our knowledge of allied species. Field notes of the habits of *Hippotragus leucophæus* will, alas! never be forthcoming, for it was hardly known even to the early colonists, and in those days there was no enthusiastic photographer with telephotic lens and screened camera to obtain sun-picture records for future generations of naturalists to debate over. Nevertheless, as the palæontologist reconstructs for us the ancient world till with vivid imagination we see again the rivers of Britain alive with bellowing Hippopotami, or watch the Pterodactyl skimming with extended parachute through the waving groves of pterophyllum, so also with the aid of analogical reasoning we may form an idea of the daily life of the Blaauwbok.

The nearest living allies are the Roan Antelope (*H. equinus*), a noble beast of sturdy appearance and imposing stature; and the yet more glorious Sable Antelope (*H. niger*), jet-black above, snow-white beneath, its head armed with magnificent horns sweeping backwards in a scimitar-like curve. Le Vaillant compares a Blaauwbok which he saw at a distance to a white Horse; and, taking everything into consideration, we may reasonably conclude that this vanished Antelope was a beautiful and stately creature, with its handsome blue-grey coat and snowy under surface well set off by the graceful sweep of the elegant though moderate-sized horns. The blue-grey colour need not have been disadvantageous to it, for travellers have assured us that the boldly coloured Roan and Sable Antelopes, in spite of their great size, are often quite invisible in the broken lights and shadows of thick bush; and especially at night the neutral greyish tint was well adapted to protect the Blaauwbok, just as our own warships painted grey become practically invisible in the gloom of night.

The brief history of the Blaauwbok is a miserable record of speedy extermination. The actual date of its discovery will probably never be known. Kolben, who visited the Cape between 1700 and 1710, mentions the "Blue Goat"; but the species was first definitely described by Pallas, who examined, in 1766, a specimen preserved at Leyden—the first one known to have been brought to Europe. From the little that is recorded of the animal, it appears to have been nowhere abundant. Le Vaillant gives as a locality, "the valley of Soete Melk, the only canton which they inhabit," and subsequently Lichtenstein mentions the mountains near the Buffalo-jagt River, between Swellendam and Algoa Bay, as one of the last refuges of the Blaauwbok. Le Vaillant obtained his specimen (a bull) in 1781; already it had become "*the most scarce and beautiful species of the African Gazells.*" Sir John Barrow, whose work on South Africa was published in 1801, remarks that in his day the Blaauwbok was almost exterminated; while Lichtenstein says that "some" were shot in 1800, but that since then no more had been seen. These Blaauwbok of 1800 were, in fact, the last of their race.

Nevertheless, the *post-mortem* existence upon which the species has entered has proved almost as lively as that which it enjoyed in the flesh; for as the years passed by, and no new examples were obtained, naturalists began to inquire for it with a zeal similar to that which animated the would-be discoverers of the living Moa in New Zealand, and, more recently, the searchers after the Ground-Sloth (*Mylodon listai*) in Patagonia. Sir Andrew Smith, in 1835, searched for it in vain; he also says that, after studying a carefully executed drawing of the Blaauwbok in the Paris Museum, he concluded that the sketch represented merely a young Roan Antelope. His friend Sir Cornwallis Harris, who, during 1836-7, enthusiastically shot specimens of every kind of South African game animal for his collection, inquired persistently for the Blaauwbok without success. "For the last forty years," writes Harris, "not an individual has been heard of in Southern Africa"; and he adds: "For a *leucophæa* I would willingly have given a finger of my right hand." Finally, many zoologists boldly declared the Blaauwbok to have been a zoological myth, asserting that the few specimens still existing were merely small or young Roan

Antelopes. The matter, however, was rightly settled in favour of the Blaauwbok as a true species. The measurements of several existing specimens were found to coincide; Sundevall, who examined a long series of Roan Antelope of all ages and both sexes, pointed out that the feet of the Stockholm *leucophæa* were smaller than those of even quite young *equina*; and a long list of differences between the two species has been drawn up. I have myself repeatedly examined the Leyden specimen, which plainly shows that the Blaauwbok was distinguishable by the following characters:—

1. Horns relatively longer than in the Roan Antelope.
2. Ears relatively shorter, and not pencilled at the tips.
3. Mane directed forwards.
4. Throat-hairs short.
5. No anteocular switch of hair.
6. No black on face.

Compare this with the short stout horns, immense ears, hogged mane, ruffed coat, anteocular brushes, and magpie face of the Roan. The fine bull Blaauwbok in my photograph is surely distinct enough from any of the allied species; for, if merely a small though *adult* Roan, why is there no black on the face; if *immature*, why does it carry such fine curved horns?

There is another point, not hitherto, I think, mentioned by zoologists. The geographical distribution of the two species is quite different. *H. leucophæa* was limited to the province of Swellendam, and finally exterminated in 1800; *H. equinus* was not discovered till Dec. 21st, 1801, near Leetakoo (Kuruman), in Bechuanaland, many weary leagues from "the valley of Soete Melk." Had the Blaauwbok occurred in the intervening district at any time, surely its remains, even if semi-fossilized, would have been unearthed before now.

I have compiled the following census of all recorded specimens, many of which unfortunately cannot now be found:—

1. Pallas's type-specimen. Obtained previous to 1766.
2. The Haarlem specimen. Obtained previously to 1766; mentioned by Allamand.
3. Skin seen by Sparrman near Krakeel River about 1772.
4. Skin bought at Amsterdam previous to 1781. Described by Pennant.

5. Blaauwbok bull shot near Tiger Hoek by Le Vaillant's Hottentot attendant in December, 1781. The French naturalist was fully aware of the value of his specimen, and took a drawing of it on the spot. The skin was carefully preserved.

6. Another specimen (a bull) seen by Le Vaillant during his stay in South Africa, 1781-85 ('Travels in Africa,' *cf.* vol. i. p. 133).

7. A Blaauwbok bull presented to the Governor subsequently to 1782, during Le Vaillant's stay at Cape Town.

8. A Blaauwbok bull had been preserved at Amsterdam for fifteen years in good condition before Le Vaillant saw it. He tells us that all the specimens he saw were much the same, thus unconsciously strengthening the claim of *H. leucophæa* to rank as a distinct species.

9. A specimen shot in 1799, and preserved at Berlin. Described by Lichtenstein in 1814. I do not know if this specimen is still in existence.

10, 11. "Some" shot in 1800, and sent to Leyden in skin (Lichtenstein). The last of their race.

12. Blaauwbok cow preserved at Vienna. Still in existence.

13. Blaauwbok still preserved at Stockholm. Mentioned by Sundevall, who, in his letter to Dr. Gray, pointed out the distinction between *H. leucophæa* and *H. equina*. Gray, however, united the two species.

14. Blaauwbok preserved at Upsala. Still extant.

15. Blaauwbok bull preserved at Paris. This was for many years supposed to be the only specimen of the animal in existence. Harris states that this example was unique, and that it was supposed to have come from the collection of the Stadtholder of Holland. Several zoologists of great eminence have declared it to be an immature Roan. Still in existence.

16. Finally, I may mention the very handsome Blaauwbok preserved at Leyden, which, by the kindness of the Museum authorities, I have examined, photographed, and measured. I do not know any particulars of date or history regarding this specimen.

This very fine specimen probably carries the record horns. Measurements of horns: length (along curve), $24\frac{2}{3}$ in.; max. circumference, $6\frac{1}{3}$ in.; max. divergence, $8\frac{2}{3}$ in.; min. divergence,

1½ in. Other measurements: height at withers, 49¾ in.; length of ear, 9¾ in.; length of mane, 1½ in.; tip of muzzle to root of tail, 73½ in. No of annulations on each horn about 35. These characters in the Leyden specimen compare very favourably with those of the bull at Paris (horns 21½ in., with 28 annulations, 45 in. at withers), and the cow at Vienna (40 in. at withers). The almost uniformly coloured face and moderate-sized ears of the Blaauwbok contrast markedly with the magpie face and immense ears of the Roan Antelope.

In addition to these skins and stuffed examples, one may mention the broken horn, supposed to have belonged to this species, figured by Buffon. I have also examined the horns and frontlet of this rare Antelope preserved in the Natural History Museum at South Kensington. I do not know from what specimen the so-called "Blaubok or Etaak," figured on p. 651 of the Rev. J. G. Wood's 'Natural History,' is taken; however, it does not matter, for the animal there delineated is obviously a Roan Antelope, and no Blaauwbok at all; whilst the accompanying letterpress also refers to *H. equinus*.

Unfortunately, as Burchell's Zebra is now so often called "Quagga" (though the true Quagga has been extinct since 1879 at very latest), so also the name "Blaauwbok" has been applied to the Blue Duiker (*Cephalophus monticola*), a tiny Antelope no bigger than a Hare, occurring in Cape Colony and Natal. It is regrettable that this little creature, with its mouse-dun coat, tiny horns, and insignificant stature, should be liable to be confused with the beautiful Blaauwbok of Swellendam, a worthy representative of the glorious Hippotragine Antelopes, which even to-day include the Fighting Sable, the handsome Gemsbok, and the gallant Fringe-eared Oryx.

That the splendid Antelopes yet remaining may be saved by prompt and efficient protection from the untimely fate of the Blaauwbok must be the earnest wish of every true naturalist. Purple Sassaby, Red Hartebeest, Magpie Blesbok, Striped Kudu—these man can destroy, but cannot replace; and if this essay contributes ever so little towards the preservation of that magnificent fauna whose noble presence even to-day gives to many an African landscape the appearance of a vast zoological garden, it will not have been written in vain.

MISCELLANEOUS JOTTINGS ON BIRD SONGS.

BY E. LEONARD GILL.

THOSE who for any purpose have had to estimate the reliability of records sent in by different people—of such occurrences, say, as the arrival of migrants—will have found that the field of observation of many persons has curious limits. Many sportsmen are keen and accurate observers of game-birds and wild-fowl, and yet know practically nothing of the other birds they so constantly meet; while people who have earned and deserve a reputation as good ornithologists on account of their wide general acquaintance with birds and their eggs, are often quite unable to recognize any but the most obvious of bird notes; a fact which at once discounts the value of their records of the arrival of summer migrants. It is remarkable, for example, how few people can distinguish the song of the Redstart; and yet the arrival of this bird in the spring is often made known by its song for more than a week before a chance occurrence gives a glimpse of the bird itself. The Lesser Whitethroat, again, is a bird which, on account of its retiring habits, is very generally overlooked, in spite of the fact that the loud notes at the end of its song make its presence always easy to detect; even in districts—such as parts of Cheshire and the Plain of York—where the Lesser Whitethroat is as common as the Sedge-Warbler, one is often told that it is extremely scarce. Another note which few people seem to know is the scrappy song of the Whinchat, a song which may be compared to that of a Whitethroat borne to the ear in a broken-up fashion on a gusty wind.

The Wood-Wren's song is certainly more commonly recognized, but in this case again it will often be found that people of local repute as ornithologists do not know the note, and are thus quite unable to judge of the bird's presence and numbers in any particular district. It may be here worth while to mention the extraordinary abundance of the Wood-Wren in Wales—at any

rate, in the summer of 1901 and in the district lying between Harlech, Dolgelly, and Towyn. In Mr. Howard Saunders's 'Manual of British Birds' the Wood-Wren is stated to be "found in suitable localities throughout England, and, more sparingly, in Wales"; but nowhere in England has the writer met with it in such remarkable numbers as in the lovely wooded valleys of the part of Wales spoken of above. It is no exaggeration to say that it was there at least twice as numerous as the Willow-Wren or Whitethroat, or any other of the Warblers. The Wood-Wren often uses a curious wailing cry, generally when an intruder is near its nest, but often also at other times; this cry consists of a series of about eight loud notes, regularly timed, sometimes maintained at the same pitch, but more often sinking slightly so that the last note of the series is about one tone of an octave below the first. The effect of this is very striking, and arrests the attention in a moment.

There are people who believe they can invariably tell the Garden Warbler's song from the Blackcap's; in fact, the writer until recently held that opinion in regard to himself. But his confidence was shaken in the early summer of this year (1901) by experience in a large Yorkshire woodland, where both these birds were singing in some number. There is, of course, no difficulty whatever in distinguishing the typical Garden Warbler's song from the typical Blackcap's; the difficulty comes in when the discovery is made that the Blackcap is in the habit of singing them both. Careful attention will reveal the fact that the Blackcap quite frequently sings for a considerable time a wandering melody that is indistinguishable from that of the Garden Warbler; at the end he may or he may not break out into his own loud and liquid strain, which is a song of fixed length and cadence. It should be understood that what is here referred to as being indistinguishable from the Garden Warbler's song is not the subdued and pretty soliloquy that the Blackcap practically always prefixes to his own typical strain; the notes referred to are so exactly similar in character to the Garden Warbler's that it may be truly said that the Blackcap, on occasion, at least, sings the Garden Warbler's song as well as his own.

Few birds are held in less esteem for their vocal powers than

the Snipe; yet some individuals of the species, if not Snipe in general, are capable of a performance that well deserves the name of a song. In the south of Yorkshire is a certain small bog where several pairs of Snipe breed annually. In the centre of a field adjoining the bog stands a large dead tree with only its gaunt main branches left; and it was a customary thing to see a Snipe pitch upon the summit of the topmost limb of this tree, and there give utterance, sometimes for a quarter of an hour at a stretch, to his unique song. This song was loud, vigorous, and sustained, and, though it was quite evidently an elaboration of the ringing cry so often uttered by the Snipe on pitching, it was very considerably modulated. Through the glasses it could be seen that the bill during this performance was held horizontally, and that the head was continually turned about from side to side. It was, of course, impossible to determine whether it was always the same bird that was responsible for this song; but the song was to be heard quite regularly during, at any rate, one breeding season—that of 1898; and the writer heard it again, still from the same point in the same dead tree, on the only occasion during the following spring on which he was able to visit the bog. Very possibly this singing of the Snipe is one of its normal accomplishments, but the writer has neither seen any mention of it, nor met with the phenomenon itself in any other locality.

The fact has been frequently noticed that many birds will occasionally sing on the wing which do not normally do so. This is commonly to be observed in the case of the Blackbird and Mistle-Thrush, and of the Greenfinch, Sedge-Warbler, and Wood-Wren. One thing is always noticeable about these birds when they are singing on the wing, and that is the peculiar mode of their flight. In every one of them there is a very evident pre-occupation of mind; the wings give a slight and neglected stroke and appear to be unusually widely opened, while the resulting flight is slow and sailing. When the Blackbird, Mistle-Thrush, and Wood-Wren are singing on the wing, they are, as a rule, drifting across from one tree to another in a straight line; but the flight of the Greenfinch and Sedge-Warbler is undertaken for the special purpose of the song, and it follows an aimless and erratic course through the air. The Wood-Wren will frequently

start its song just as it leaves a tree, and however long its flight may be (it is never of any great length), it maintains throughout it the slower opening phrases of the song, saving up the rapid concluding trill until the moment of its alighting in the second tree.

The most remarkable instance of a bird's singing on the wing that has come under the writer's notice was one furnished by a Chiffchaff. The bird was chasing another, presumably the female, on the outskirts of a wood; the two were flying at an incredible speed close to the ground and near a hedgerow, the pursued making sudden turns and twists, which were followed closely and with perfect precision by the pursuer; and one of them, probably the pursuer, was repeatedly uttering the clear "chip, chop" almost as placidly as though he were singing from his accustomed tree-top. It may be remarked in passing that the powers of flight held in reserve by these smaller Warblers are extraordinary. This fact is occasionally illustrated in a most surprising manner by the Willow-Wren. Just after their arrival in the spring (possibly when only the males are about), Willow-Wrens are exceedingly pugnacious, and one may sometimes be seen to take up a position on a post, or in the lower branches of a tree, and from there to make fierce sallies upon any bird not larger than a Finch that happens to be flying by; it will always take especial pleasure in attacking a Sand-Martin—indeed, the Sand-Martin seems to be a common butt for any small bird's exuberance of spirits; and in every case the Willow-Wren will exhibit on the wing a command both of speed and agility which is in the greatest possible contrast with what one would expect from the everyday deportment of its life. It is a sight that in a measure prepares one's mind for the startling conclusions reached by Gätke, and makes it a little easier to understand how such small and delicate birds as these can conduct with so much speed and success their long migrations overseas.

The slight revival of song that takes place in the autumn has often been remarked upon. The most conspicuous part in it is taken by the Chaffinch, Yellowhammer, Willow-Wren, and Chiffchaff; the Lesser Whitethroat also sings a good deal in early autumn, but omits the string of loud notes that form the ending

of his full song—in fact, his autumn song is nothing more than a very subdued warble, so low that it cannot be heard beyond a few yards' distance, and kept up almost continuously whilst he creeps about amongst the bushes. The duration of this autumn singing appears to depend very much on the weather; in the case of the Chiffchaff and Willow-Wren it usually begins with August, and lasts until early in September; but in the phenomenally hot autumn of 1897 the Willow-Wren was singing every day in the south of Yorkshire up to the 30th of September, and the Chiffchaff up to the 3rd of October; whilst in the mild winter which followed, both Chaffinch and Yellowhammer were singing occasionally until well on in December; and both were once more in song before the end of the following January—the Chaffinch for the first time on January 21st, the Yellowhammer on the 25th.

AN OBSERVATIONAL DIARY OF THE HABITS—
MOSTLY DOMESTIC—OF THE GREAT CRESTED
GREBE (*PODICIPES CRISTATUS*), AND OF THE
PEEWIT (*VANELLUS VULGARIS*), WITH SOME
GENERAL REMARKS.

BY EDMUND SELOUS.

(Continued from p. 350.)

May 3rd, 1901.—I was here this morning from about 4.30 a.m., but an unfortunate circumstance obliged me to leave at 7; and on the following day I was unable to come, owing to being indisposed. Up to my leaving, no pairing and no peculiar antic or display between the two birds—as witnessed the previous morning—had taken place. Twice, however, the two had approached the nest, and each had lain along the water, as though inviting the other, in the way I have recorded in my notes of last year. On each occasion this was followed by an approach of the birds to the nest, but the impulse was not sufficient to cause either of them to ascend it, though this was evidently in their minds. This, together with all their actions in this respect which I have witnessed, makes me think that the actual pairing of these birds takes place, always, either on the nest itself, or on some structure of weeds, either naturally or artificially formed for the purpose, the lying along the water being only the suggestion preliminary to the subsequent ascent. Such, at least, has always been the case, and the manner in which the pairing is accomplished, the one bird standing entirely upright—like a Penguin—on the body of the other, would seem to necessitate some solid foundation. Nevertheless, the lying along the water may point to a past state of things, in which pairing took place in it, as it does now with Ducks.

During all the time I was here (from 4.40 to 6.45, to be precise) neither of the two birds carried any weeds to the nest, or

at all busied themselves with it. Assuming the nest to be the ordinary one in which the eggs will be laid, then it has been built earlier than it was the previous year—at least than the one which I first saw. Also, it differs in hardly being raised above the surface of the water—no more, in fact, than a floating weed—so that it is undiscernible, unless when standing just over it, whilst the other was quite conspicuous.

May 5th.—At the water just after 7 a.m. (having had to walk), and find the two birds separated by some distance. The male is near me, but soon works back to the female, and, when they meet, they utter the curious, low, quacking kind of note. They are now floating idly on the water. Each time I see them together, or even apart, I am more struck with the superior size of the male. His body is larger, his neck thicker and held habitually higher, his crest finer and thicker, his whole appearance more striking. It would not be easy for me, now, to mistake one for the other through the glasses, even at a considerable distance, nor have I ever, in fact, had a real doubt except when I was a long way off. The two are now fishing, and very successfully, for they often bring a fish up and swallow it on the surface.

It is very funny to see not only the foot, but the whole leg of one of these Grebes lifted right into the air, and shaken backwards and forwards—waggled about. This has just happened with the hen.

At a little past eight the two have fronted each other in the water, and toyed in the usual manner. But nothing more has come of this, and it is now near 9.30. It is a cold ungenial morning.

At 10 I leave, nothing more having taken place, or seeming likely to take place, between the birds. Yesterday I was not able to come owing to headache.

May 9th.—I am at the water at 7.30 this morning, and find the Grebes swimming about together. Twice they front each other in the water, stretch up their necks, and toy a little with their beaks; and a third time they do this less definitely. But they do not go to the nest. At 8.10 I notice them diving somewhat excitedly, as it seems to me, one going down as soon as the other does, and sometimes—especially once—with a little splash.

They also get over by the opposite shore, close in and together, and I am expecting a repetition of the curious actions I saw before, and which directly preceded the pairing on the nest. Nothing of the sort takes place, however, and in whatever way this diving may have begun, the birds are soon merely fishing. I wait till about 8.30, and then walk down to the nest, and once more carefully examine it. It is certainly a made structure, but, as certainly, altogether slight and insignificant, compared to those of last year. One might call it a degenerate nest, and it certainly suggests the idea that it has only been constructed—up to the present, at least—for the purpose for which it has alone been used.

May 11th.—Arrive at 7 a.m., and see the Grebes confronting, &c. Shortly afterwards they swim to the accustomed place, and the female—who leads the way—lies along upon the water amongst the growing weeds. The male goes up to her, appearing interested, but all at once he turns right round, so that the two are tail to tail, and lowers his own head, lying along in the same way, but not to such a complete extent. Both, then, resume the normal attitude, and, approaching each other, the male passes the female, and, pressing to the nest, ascends it, and lies along in the customary manner. The female, however, though her actions show that she is quite aware of the state of the case, does not respond, and the male, soon taking the water again, first dives and places a piece of weed on the nest, and the two then swim away together and float, dive and preen themselves, as usual. At 7.30 the male swims to the nest, and lies along on the water close to it. He is followed by the female, who, when she arrives at the patch of weeds, does the same; but there is nothing further, and, very shortly, the two swim off together. At 8.15 both again swim to the nest, and the male, who is much in advance, ascends and lies along it, as before. This, however, has the effect of making the female turn and swim out to some little way, as though coyly. The male comes off and follows her, when, turning, she eagerly swims to him; but when they join there is nothing particular between them. There have thus, this morning, been several visits paid to the nest with the idea of pairing, and two ascensions by the male. Now the morning is fine and warm, the lake once more a sun-bath, though

misty. For the last week the weather has been cold and detestable. The birds' inclinations and activities seem to follow the weather. At 8.20 I have to leave, so cannot say if the actual pairing was accomplished or not.

May 13th.—At the water to-day at 11 a.m., and again at about 1.30 p.m. Each time the Grebes were floating idly about, and showed no disposition towards connubiality.

May 14th.—Arrive at about 7 a.m. The two birds are floating idly about together, and, before long, they front each other with reared necks, in the way often alluded to. Then, without *tâter*-ing, each throws up the head several times into the air, at the same time opening and closing the long slender bill. This I have seen them do several times before, but hardly so pronouncedly. The bill, however, is so fine, and its lines, when thus opened, so soon lost, that this action makes less impression upon one than the gross gobble—as one may call it—of the Shag, and (no doubt) the Common Cormorant. It is a finer and more aristocratic affair altogether. It has a lady-like character—indeed, this can be said of the general appearance and deportment of both the birds. Bismarck, I think, has said, "In races, also, you have the male and the female." The remark was *à propos* of the Slav peoples, yet the Russian nationality, at any rate, if it shows—really or fancifully—some feminine traits, seems, at least, as strong, persistent, and inflexible as the German, or any other Teutonic one.

In about half an hour the two birds begin fishing, starting off diving with excitement and energy, and, as it seems to me, with a certain amount of consciousness between them. After a time they become separated, and, for a good while, one floats on the water (having finished fishing) quite alone. Now, however, the one is swimming down to it, and they soon rejoin. Both are now floating with their heads in the middle of their backs, looking like pork-pies on the water. As it is now half-past eight, and there is no sign of any nuptial activities, I leave.

My diary ends here. For several mornings after this, and then, on and off, till the end of the month, I continued to visit the lake, but the doings of the birds became less and less interesting, and it became, at last, evident to me that no eggs would be laid. Going again, on the 12th of June, I was unable to dis-

cover them on any part of the water, and came to the conclusion that they had abandoned it and the nest.

From the above observations, as well as those which I made last year, it may, I think, be concluded that the nest of the Great Crested Grebe is used, habitually, by the birds to pair on; so that, if it were used for no other purpose, and the eggs were laid elsewhere, it would not be a nest at all. It would, in fact, then be a "bower," or something very much resembling one—a *thalamum*, round and about which, in time, all the bird's coquetties might take place; whilst its subsequent gradual elaboration and ornamentation, in the case of species gifted with a higher æsthetic sense, offers no particular difficulty that I can see. Inasmuch, however, as the instinct of incubation would in all cases—we may assume—when the eggs had once been laid, overpower the primary sexual one, why should the two clash with each other, and, if they did not clash, why should not one and the same structure subserve, without inconvenience, the uses of both? First, it must be remembered that these Grebes paired on the nest, after one egg, at least, had been laid. Here, therefore, is a risk of the eggs being broken, and anything that diminished such risk would be an advantage to the species. But I have suggested another, and, as I think, a more powerful cause, by which the bower or *thalamum* may have become, in time, a distinct and separate structure from the true nest—as we see in the case of the Bower-birds. If I here repeat myself, somewhat, I hope I may be excused, for I wish to recall the speculations already indulged in, before proceeding to some further ones, which arise, naturally, out of them, whether supported or not by facts which I have observed, and will shortly record. Many birds, then, build more than one nest; and, if all of these nests were used as *thalamas* for the performance of the nuptial rite, whilst only the last-made one received the eggs, then, gradually and quite naturally, two separate structures for two separate purposes might take the place of the one "contrived a double debt to pay." This would be but according to the principle of differentiation, or specialization ("specialization of parts," one might almost, by a metaphor, call it)* which prevails

* Comparing the different nests to multiplied organs of a living body, as *e. g.* the limbs of some crustaceans, which, being at first used both for walking and other purposes, have now become specialized into jaws, claws, and more effective legs.

throughout nature. Moreover, as the eggs would only be laid—after a full indulgence of the sexual passion—in the last nest, the incubating instinct might gradually restrain the birds—now somewhat sated—from pairing on that one; whilst the others, being used for that purpose only, would tend more and more to be built for it only, too. With regard to the multiplication of nests, we have the Wren as a familiar example of the habit, whilst my last year's observations on these same two Grebes record it in this species. Peewits are another instance, for they make a number of hollows, in all respects similar to the one in which the eggs are finally deposited, though, from their strange manner of doing this, another question arises, which I shall shortly bring forward. None of these birds are at all closely allied to the Bower-birds of Australia, but in the Thrush and the Blackbird we, at any rate, get a good deal nearer to them. With regard to the Blackbird, I have seen one clear instance of an apparently quite capricious abandonment of an almost finished nest in order to build another; nor is it in the least likely that I happened here—any more than in the case of the Grebes—to come upon a pair of very exceptional birds. It is the rarest thing, I think, speaking generally, to meet with a real exception. The appearance of it, in nine hundred and ninety-nine cases out of a thousand, marks but our ignorance. There remains the Thrush, and to this bird I paid some attention this spring, and was surprised at the number of nests which I found in different stages of construction, and which were not afterwards completed. That birds have, as a rule, any particular—or, at least, any clearly defined—object in building more than one nest, I do not myself believe; but, be that as it may, such a habit, joined to the one of pairing on the nest, appears to me to offer just that sort of foundation out of which such a state of affairs as we have with the Bower-birds might eventually arise.

But now another question arises. If a certain structure—the nest—is habitually made use of by any species of bird for pairing as well as for laying eggs in, which of these two uses are we to consider as the primary, and which the secondary one? In other words, has the bird built a *thalamum* which has become, in time, a nest, or a nest which has become a *thalamum*? This brings us to the origin of nest building, which need not,

necessarily, have been the desire to shelter and conceal the eggs. It is possible that both that and the idea of doing so were developed after, and by reason of the nest itself, which, in its early stages, may have been due to other and widely different causes. Eggs and young must, of necessity, be preceded by sexual intercourse, and in the case of the Crested—probably of all the Grebes—it seems likely that such intercourse takes place on the nest alone. With the vast majority of birds, however, this is quite otherwise. Pairing on the nest, if it takes place at all (I have observed it in the case of the Rook, which again brings us nearer to the Bower-birds), does so probably as an exception, nor is it easy to see why this should ever have been otherwise. But (if I may be allowed to sketch my theory first, and give the facts on which I found it afterwards) let us assume two things, neither of which, perhaps, is highly improbable—*viz.*: first, that the primæval bird, or birds, made no nest; and, secondly, that the first eggs were laid on the ground. Supposing, then, that a male ground-laying bird that makes no nest indulges during the season of love, till shortly before the actual laying of the eggs, in all sorts of strange frenzied movements *upon* the ground, and that these movements tend to become localized and concentrated in some particular spot or spots in which—or one of which—the female, as sexually attracted thereto, ultimately lays her eggs, have we not here the nucleus, or, at any rate, the potentiality, of the future nest? And where—before the eggs were laid—would pairing have been so likely to have taken place as in one of these very spots—these vortexes, so to speak, of the sexual whirlwind? Can we not imagine a custom, gradually shaping itself out of this, of laying the eggs in some place where pairing was habitually indulged in, so that if such place afterwards became, in any true sense, a nest, we would here have habitual pairing upon it?

Having got so far, let us now suppose that one chief form of these frenzied movements alluded to, is a rolling upon or a buzzing or spinning over the ground, by which means the bird so acting produces a larger or smaller depression in it. If the eggs are laid in such a depression, they are now laid in a nest, but such nest will not have been produced with any idea of concealing the eggs or sheltering the young. It will be due to nervous and non-purposive movements springing out of the violence of

sexual passion, and, moreover, it will often have been made mostly, if not altogether, by the male bird. Now, as everyone knows, numbers of ground-laying birds deposit their eggs in a depression made either wholly or partly by themselves; whilst others, such as the Great Plover and the Nightjar, do not—that, at least, is the common view—make any kind of artificial hollow, though they may, in some cases, take advantage of a natural one. We will suppose that in the former case, as well as in some instances of the latter, we see the primitive nest or pairing-place, produced or located in the manner indicated. Now, however, comes a farther stage which, it might well be thought, could have originated only in deliberate and purposive action on the part of the bird. I allude to the lining of grass, moss, sticks, or even stones or fragments of shells, with which many birds who lay their eggs in a hollow made by them in the ground, further improve it. That this process (or, at any rate, the later stages of it) has now, with most birds, become a deliberate one, I do not doubt. But, as every evolutionist will admit, it is *the beginnings* of anything which best explain and are most fraught with significance. Is it possible that even the actual *building* of the nest may have had a nervous—a frenzied—origin? Lions and other fierce carnivorous animals will, when wounded, bite at sticks, or anything else lying within their reach. That a bird, as accustomed to peck as is a Dog or Lion to bite, should, whilst in a state of the most intense nervous excitement, do the same, does not appear to me to be more strange, or, indeed, in any way peculiar; and that such a trick would be inherited, and, if beneficial, increased and modified, who (having evolution in his soul) can doubt? If a bird, whilst ecstatically rolling on the ground, were to pick up and throw aside either small sticks, or any other loose-lying and easily-seized objects—such as bits of grass or fibrous roots—I can see no reason why it should not, by stretching out its neck to such as lay only just within reach, and dropping them again when in an easier attitude, make a sort of collection of them close about it.* Then, if the eggs were laid

* Since writing this paper I have read that of Mr. Cronwright Schreiner on the Ostrich in 'The Zoologist' for 1897, and as a part of it seems to me to support my theory, I quote it here, though it should be read, also, with reference to some of those actions upon which I found it, and which I am about to recount:—

where the bird had rolled, they would be laid in the midst of such a collection, which would, of course, be increased, were the female bird to act in a similar way, and in the same place. Nor is this last so unlikely, for in many species both sexes indulge in the same odd postures and contortions during the breeding season.

All the above suppositions have been suggested to me by what I have actually seen birds do whilst under the influence of strong sexual excitement, and, though I am ready to admit that the foundation of fact may have been slight in comparison with the superstructure of theory raised upon it, yet there can be no harm in a provisional hypothesis; and, besides, what is the use of staring at facts with eyes that have "no speculation" in them? For myself, I shall always strive to see the causes of things with the things; nor do I know of anything worse that can happen to one by this method than to have it pronounced on all hands that one's theories are "less happy" than one's records of facts, a dictum which, till argument is met by argument, one may take to mean something like this—"We are equal to a fact or two, but theories make our heads spin round."

(To be continued.)

"*The nest.*— . . . "made by the pair together. The cock goes down on to his breast, scraping or kicking the sand out backwards with his feet, &c. The hen stands by, often fluttering and clicking her wings, and helps by picking up the sand with her beak, and dropping it irregularly near the edge of the growing depression.

"The little *embankment* round the nest. . . . The sitting bird, while on the nest, *sometimes pecks the sand up with its beak nearly as far from the nest as it can reach, and drops it around the body.* A little embankment is thus gradually formed. . . . The formation . . . is aided by a peculiar habit of the birds. When the bird on the nest is much *excited* (as by the approach of other birds or people) it snaps up the sand *spasmodically* without rising from the nest, and without lifting its head more than a few inches from the ground. The bank is raised by such sand as falls inward. The original nest is merely a shallow depression."

Remarks follow on the use of the bank, which has become a part—and an important part—of the nest. We, however, are concerned with the *origin* both of it and the depression. It seems clear, from the account, that the former is sometimes made, or added to, when there can hardly be an intention of making it; whilst, to make the latter, the cock assumes the attitude of sexual frenzy (described in the same paper), which is one, as it seems to me, hardly necessary for mere scratching alone. Had the latter, however, grown out of the former, we can well understand the characteristic posture being continued. The italics are my own.

ON THE INCREASE OF THE STARLING AND THE HAWFINCH.

By H. E. HOWARD, F.Z.S.

THAT an increased population must very considerably affect the life-history of many of the birds of this country is a fact which, I think, is apparent to all who take an interest in the avifauna of Great Britain. To determine what changes are in progress at the present moment is, however, no easy matter; but still, I think, there are some which can be readily fathomed.

As amongst all animals, so amongst birds, the survival of the fittest plays the most important part in the formation of their history; that is to say, certain species will increase, others will decrease; partly because their habits are not adapted to the changes brought about by civilization, partly as a direct result of the growth of some stronger and opposing species. There is too great a tendency at the present time to seize upon the fact of the decrease of a certain species, and to exaggerate it into a proof that the birds of this country are in a bad way; and, as a rule, the cause is directly attributed to human agency. This tendency—due to what I might term a too superficial observation, combined with the fact that it is far more difficult to determine an increase than a decrease in a certain species—is, to my mind, a great pity, as it is calculated to diminish that scientific observation which, carried on at all seasons of the year, can alone give an insight into those problems of ornithology which the naturalist is constantly called upon to investigate.

The real changes that are in progress are therefore apt to be overlooked, and their effect on the history of certain birds of this country does not appear to be fully appreciated.

In this article I propose to deal with two species that are increasing, with results that, from my own observations, appear likely to accrue. The first of these is the Starling, a bird which probably possesses an energetic force to a greater degree than any

other species in this country. The great factors which govern the life of all birds are—first, food; and, secondly, immunity from attack during the nesting season. Climate, of course, also plays an important part, periodical seasons of extreme cold having an appalling effect on certain birds. But Starlings have very little to fear from any of these, their habits being in every way suited to human civilization; their diet is so varied that they are very rarely short of food; their nest is always built in holes, either in houses or trees, and therefore they are practically safe from that pest that follows in the wake of all civilization—the domestic Cat. And what is the result? The same energy which compels them to seek food; compels them also to find somehow or somewhere suitable places to rear their young, the consequence being that some other species has to suffer. For some years past I have watched the struggles enacted between Starlings and Green Woodpeckers for the possession of the latter's nesting-site, and in not a single case have I seen the Woodpeckers able to hold their own. I should like to be able to think that these cases are only local, but cannot do so, as every year, without in any way searching for them, the same struggles, both near habitations and in large woods and forests, are being continually forced upon my notice. The country now appears to be, so to speak, inundated with Starlings. Near the house I was able daily to watch two cases most closely, and to note how the Starlings planned their attack, and the length of time they took to achieve their object.

In the first case the struggle lasted a week; in the second, I was beginning to congratulate myself that at last a Woodpecker had won the day, when one morning I noticed, with great disgust, a Starling, carrying straws in its bill, disappear into the hole, thereby proving that the fight was over. If it was only a pair of Woodpeckers *versus* a pair of Starlings, I think it very probable that the Woodpeckers would hold their own; but it is not so. A number of Starlings collect on or about the tree in which the Woodpecker is, and they all in their turn mob him, and worry his life, until, tired out, he goes off in the hope of finding some other place where he can nest in safety. It is obvious that Woodpeckers are a class of birds whose habits are clearly not adapted to civilization, while woods and forests are

continually decreasing in every direction; trees that show the slightest sign of decay are by the present utilitarian generation immediately felled. In many districts in this part of the country* the Pied Woodpecker is barely able to find sufficient suitable trees to make up its daily round. A curious fact about these birds is that, at the same time each morning one can see them arrive at a certain tree, search it thoroughly, and pass on to another, the trees to which they come and go being always identically the same, proving that they have a round they visit daily.

Added to this, we have an increase of a stronger and opposing species, and I cannot but believe that in, comparatively speaking, a short period, extinction thus caused by natural selection is bound to follow.

And how does this apply to the Hawfinch? The increase of these birds is perhaps more remarkable than the Starling, and at first sight more unaccountable. But when we come to examine their habits and life-history, and to see how the conditions now existent apply to them, the cause of their increase becomes more apparent. That there is a very remarkable increase requires very little observation to prove, and to me it has become yearly more interesting. Fifteen years ago I rarely saw this bird; five years ago small parties of five and six were not at all uncommon; and during the winter now I frequently see as many as a dozen under one yew. This year eight pairs nested within half a mile of my house. At this rate of increase the bird will soon rival the Greenfinch in abundance.

Food, of course, gives the limit of numbers, and they depend to a great extent on civilization for their food; and in this fact we shall find, I think, a reason for their increase. As the population grows, so does the need of market-gardens, with an increase in the cultivation of vegetables, and thus more peas are grown, which, from the middle of June to the end of July—that is to say, for the first six weeks after the young are fledged—form their staple food. This time of year used undoubtedly to be the most difficult one for them to procure food. In the winter, contrary to the experience of other birds, they have always a plentiful supply of food. One can then find them feeding on the berries and seeds of holly, yew, and hornbeam, and in that they

* Hampshire.

only eat the kernels, they have an advantage, devouring what other birds discard. They are also better off than they used to be for nesting-sites, the large orchards in fruit-growing districts affording them ample shelter. A very large proportion of the nests I have found have been in apple-trees, which seems to have been the experience of others; and, as a rule, the nests are not far from the ground, and in their size vary to an unusual extent; some, even where I have known the exact spot, being exceedingly hard to see, on account of their being so lightly built; others are large bulky nests, which you can hardly help detecting at once when near the tree; but the orchards are large, and therefore this species has a good chance of rearing its young in safety. It is difficult to forecast how this will affect other species, but the Hawfinch is as pugnacious as well as a very strong bird, and if this rate of increase is maintained—as there is every reason to suppose it will be—then some other weaker species already struggling with the physical conditions of life is bound to suffer; but the result to farmers and fruit-growers is very apparent. At first sight it appears unlikely and almost incredible that a few Hawfinches could do much damage to a field of peas; but if anyone has any doubt on this point, let him watch the birds at work, and see how a family takes up its abode in a field, and how from early in the morning until late at night they are hard at work splitting up the pods; when I think even the most incredulous will be compelled to admit that at least a great deal of damage is done. It remains, however, to the unlucky persons who possess cherry-orchards, and look to them as a source of income, to suffer most from the depredations of this bird, although probably few of them are aware of the fact. For some time I looked upon Hawfinches as birds that did little harm during the month of May; as a rule, they appeared to me to feed entirely on the seeds of the oak at this time of year, but I discovered my mistake when looking for the nests. Having watched the birds for some time in and out of a cherry orchard on the borders of a forest between the hours of three and five in the morning, I concluded that they must be nesting in it; I therefore searched every tree, and, having failed to find any trace of a nest, I thought it best to wait and see for what reason the birds visited the orchard. This I did, with the result that before

long a pair settled in the tree under which I stood, and began to feed upon the fruit, which at this time of year is just setting. In common with some other species, they appear to be less shy during the breeding season. While standing under a cherry-tree, I have watched them at work within six feet of my head, and to see the quick way they pass from branch to branch, and the pieces of what would be cherries falling to the ground, one wonders how it is possible for any fruit to come to maturity at all.

Between three and six in the morning is the best time to watch them feeding—in fact, all observations during spring and summer, to be of any use, ought to be made at that time of the morning. After seven o'clock birds slacken off, and during the day activity amongst them, as compared with the first few hours after dawn, is practically *nil*. I am much afraid that the Hawfinch will in future become another scourge for the already much to be pitied fruit-grower.

And here, perhaps, it would not be out of place to say a word for those whose existence depends to a great extent on a good fruit crop. How during the month of July can they be expected to conform to the rules and regulations as regards wild birds. No firing of guns, shouting, or any of the wonderful devices you see placed in the trees have the least effect in keeping away the birds. Nothing but killing—and even this to be of any use must be commenced directly the fruit shows any signs of ripening; for, if the birds are once allowed to get out of hand, not even killing will keep away what I can only describe as the vast hordes which assemble round the orchards. Of late there has been too much whining about the imaginary decrease of the birds of this country. It is quite time this ended, and in its place more common sense and closer observation cultivated, as by these means alone can we hope to discover in what direction it is possible for man to facilitate the union of nature and agricultural interests.

BIRDS OBSERVED ON THE CALF OF MAN.

BY F. S. GRAVES AND P. RALFE.

THE following notes were made during a four days' stay on the Calf of Man (May 22nd-25th, 1901). This islet (*cf.* Zool. 1894, p. 161) is separated from the Isle of Man by a strait 500 yards wide, and is 616 acres in extent, rising at its western side to 421 ft. in height. The whole circuit is rocky, but the highest cliffs are on the west, which is wholly precipitous. The north-east point, Kione Rouayr, has also good cliffs; the southern part consists of three promontories, comparatively low, but with steep sides, and nearly flat tops. Off the easternmost of these is the Burrow, a fine detached mass of rock pierced by a cavern; and on the west, underneath the two lighthouses (now disused for their original purpose), a double pyramid, called the Stack, separated by a narrow passage whose walls are sheer precipices. From the southern coast, towards the one farmhouse, which stands well inland, extends a little ravine called "the Glen," which has a tiny stream, and is full of profuse and beautiful vegetation. Here were noticed most of the small migrants mentioned below. There is some cultivated ground, mostly near the farmhouse, behind which are also a few trees: but the greater part of the islet is covered with heather, bracken (dead at the time of our visit), and coarse grass. There was in many places an abundance of beautiful flowering hyacinths, and in others primroses richly bloomed, or the ground was covered with sheets of ground-ivy, filling the air with scent. Damp places along the cliffs were white with masses of the flowers of *Cochlearia*.

While on former occasions our knowledge of the Calf had been entirely obtained from the sea, we were now for the first three days confined to the land; but on the fourth rowed completely round the islet.

MISTLE-THRUSH (*Turdus viscivorus*).—One seen on a field near the farm.

SONG-THRUSH (*T. musicus*).—One or two in the Glen.

BLACKBIRD (*T. merula*).—Saw a number. In a gooseberry-bush outside the cottage where we lived was a nest with eggs.

WHEATEAR (*Saxicola ananthe*).—A few noted.

STONECHAT (*Pratincola rubicola*).—Pretty common, as on the main island.

WHINCHAT (*P. rubetra*).—We saw two; one in the Glen, one near our cottage. The species has only once before been recorded in Man.

ROBIN (*Erithacus rubecula*).—One seen in enclosures near the mouth of the Glen.

WHITETHROAT (*Sylvia cinerea*).—A good many, especially in the Glen and about the cottage, with its adjacent bushes, where one was heard singing.

GARDEN WARBLER (*S. hortensis*).—We saw one bird of this species among bushes in the Glen. The status of the Garden Warbler as a Manx bird is very uncertain.

WILLOW-WREN (*Phylloscopus trochilus*).—A few, very wild. (Some of these might possibly be Chiffchaffs, but the latter appear to be rare or local in Man, whilst *P. trochilus* is common and abundant.)

HEDGE-SPARROW (*Accentor modularis*).—A pair frequented the neighbourhood of our cottage, and had young already on the wing.

MEADOW-PIBIT (*Anthus pratensis*).—Common.

ROCK-PIBIT (*A. obscurus*).—Common. A nest with eggs concealed behind a tuft of sea-spleenwort in a cavernous situation near the sea.

SPOTTED FLYCATCHER (*Muscicapa grisola*).—We observed one or two in the Glen, and one frequented the bushes round the cottage. It has seldom been noticed in Man.

SWALLOW (*Hirundo rustica*).—A few flying about near the Glen, in the sunniest part of the islet.

SAND-MARTIN (*Cotile riparia*).—One seen.

GREENFINCH (*Ligurinus chloris*).—At the house of Lloyds' signalman (one of the disused lighthouses) was a specimen which had been caught on the Calf shortly before our visit.

CHAFFINCH (*Fringilla cœlebs*).—One was in song near the cottage.

LINNET (*Linota cannabina*).—A few observed.

SPARROW (*Passer domesticus*).—We noted it only at the farm.

STARLING (*Sturnus vulgaris*).—Not uncommon; about the farm and elsewhere. We heard young calling from a hole in a gully on the cliffs.

CHOUGH (*Pyrrhocorax graculus*).—Numerous and tame. Some were always to be seen feeding in the grass-fields near the farm. One of the coast-gullies ends in a long dark cave, in a hole in the roof of which was a nest. This is a favourite site in the Isle of Man, as elsewhere. Pairs were also evidently breeding elsewhere on the coast.

JACKDAW (*Corvus monedula*).—A number about the farm.

HOODED CROW (*C. cornix*).—We observed several.

RAVEN (*C. corax*).—We saw five together, no doubt a family of the year.

ROOK (*C. frugilegus*).—One seen flying towards the main island.

SKY-LARK (*Alauda arvensis*).—One or two noticed.

CUCKOO (*Cuculus canorus*).—We several times saw one, and once two together.

KESTREL (*Falco tinnunculus*).—One seen. We were shown an egg which a few days before had been taken on a ledge on the rocky side of the Glen.

PEREGRINE FALCON (*F. peregrinus*).—One twice rose from a gully on the coast, where a few sticks of an old nest were to be seen.

CORMORANT (*Phalacrocorax carbo*).—There is a small settlement on the cliffs, a number of nests being placed near together on ledges just under the edge of the brow, and others at a little distance more widely scattered. In the heat the old birds sat with gaping mouths on the great whitened structures, which were very conspicuous. In some nests were young, which could be heard calling; while in others were fresh eggs.

SHAG (*P. graculus*).—Abundant, and nests in many places. Some nests, instead of being close to the water, were high up the broken and stony brows, completely hidden under great masses of sloping rock.

GANNET (*Sula bassana*).—One seen in the Sound. At this season it is frequent round the whole Manx coast.

COMMON SHELD-DUCK (*Tadorna cornuta*).—A pair near a little pond.

PARTRIDGE (*Perdix cinerea*).—We found some feathers; probably the bird had been killed by a Falcon.

[LAND-RAIL (*Crex pratensis*).—We did not hear any, but were told that it inhabits the islet.]

WATERHEN (*Gallinula chloropus*).—Near the mouth of the Glen is a small dam, connected with a disused mill in ruins. In a hole in the bank of this was a Waterhen's nest, and we saw on the dam the mother bird with five downy young. When the nest was built there would be no cover on the water, but the foundation of another seemed to be commenced among a little low vegetation now springing up.

LAPWING (*Vanellus vulgaris*).—Fairly abundant on some waste ground

in the interior, and probably comparatively more numerous here than on the main island.

OYSTERCATCHER (*Hamatopus ostralegus*).—Common round the coast, especially among the low-tide rocks of the Sound. A pair were evidently nesting on the rough grassy land near the small pond where the Sheld-Ducks were, and we saw some eggs which had been taken shortly before on the turf margin of the rocks.

HERRING-GULL (*Larus argentatus*).—The dominant bird of the Calf. Nests in abundance almost all round it, sometimes on the hill-sides at a little distance back from the cliff, but not in the interior of the islet. On the southern promontories, where the turf consists chiefly of sea-pink, the nests were large brown structures formed of the torn-up tufts. Most nests had three eggs or newly-hatched young. In one were a few mangled beetles (*Carabus nemoralis*, *Barynotus elevatus*), and in another some small worms, evidently intended for the first food of the young.

LESSER BLACK-BACKED GULL (*L. fuscus*).—Numbers with *L. argentatus* in certain places, but not so well distributed. Some of their nests had many feathers mixed with the structure. We did not identify any nests with young as belonging to this species, which lays later than the Herring-Gull. Numbers breed on the isolated Burrow and Stack.

KITTIWAKE (*Rissa tridactyla*).—One colony, not large (described Zool. 1894, p. 166). Laying had not yet commenced, though the birds spent much time in unfinished nests on little ledges and projections of the sheer cliff.

RAZORBILL (*Alca torda*).—Well distributed and abundant, but does not crowd to the same extent as the next species. Some eggs seen.

COMMON GUILLEMOT (*Uria troile*).—Very abundant at Kione Rouayr, and on the western cliffs, on narrow ledges. They lay later than the Razorbill, and we noticed no eggs.

PUFFIN (*Fratercula arctica*).—In places there are large colonies, as at Kione Rouayr, and among rock-rubbish under the western cliffs. In May the Puffin was not very much in evidence, though we saw some carrying straws and other nesting material; but when Ralfe again visited the Calf, on July 5th, it was astonishingly numerous and tame.

NOTES AND QUERIES.

MAMMALIA.

Variety of *Vesperugo pipistrellus*.—On Sept. 17th my friend Mr. James Fowler, of Frampton Cotterell, Gloucestershire, noticed a Bat flying about in a lane near Winterbourne Church, which appeared to have perfectly white wings. It was shot a few evenings later, and I had the opportunity of making the following notes thereon:—Adult *Pipistrelle* (*Vesperugo pipistrellus*), female, measuring $8\frac{1}{2}$ inches in expanse; the wings and interfemoral membranes, as well as the ears, were white, like a piece of white tissue-paper; the legs, arms, digits, nose, and lips pinkish white; the fur of head and body very slightly paler brown than in a normal specimen. I have never seen a white-winged variety of any of our Bats, and should be glad if any of your readers could inform me of any other occurrences.—H. J. CHARBONNIER (Redland, Bristol).

Autumnal Litter of Dormice.—In reference to Mr. Forrest's note under the above heading (*ante*, p. 423), I may mention that, having seen it stated in 'The Zoologist' that Dormice were very common in nut-rows on Buckland Common, near Tring, I went there in April, 1893. I had been told of an old man named Butcher who collected young Squirrels and Dormice for the London shops, and whom I interviewed. Both he and a labourer told me that they had never found the nest of the Dormouse in spring, but always in autumn, when the nuts were beginning to appear. Butcher showed me a number of young Squirrels that he had just caught or acquired. I had, like Mr. Forrest, been previously under the impression that the Dormouse bred in the spring.—T. VAUGHAN ROBERTS (Nutfield, Watford).

AVES.

***Regulus cristatus* near Reading.**—On May 25th I found a Gold-crest's nest in a furze-bush, about twelve inches from the ground, on Bucklebury Common, near Reading. The first young one was just out.—G. W. BRADSHAW (54, London Street, Reading).

Nesting of the Marsh-Warbler in Somersetshire.—While examining a small collection of eggs this month, belonging to a friend, I observed

two eggs which I felt certain were those of the Marsh-Warbler (*Acrocephalus palustris*). Subsequently, Mr. H. W. Marsden, of Clifton, was kind enough to confirm my opinion when I forwarded him the specimens, which my friend allowed me to keep. Being questioned as to how he came by them, he stated that he found the nest about two or three feet from the ground in a dense bed of nettles not far away from water. I do not think he observed the bird, being unaware of the rarity he had discovered. The nest contained five eggs, two of which he looted. My friend said he thought they were "rather handsome Blackcaps"! The same gentleman found two other nests in the locality containing young birds, which he believes to have also been Marsh-Warblers' nests. I refrain from giving the exact locality of this rare bird's breeding haunt, in order that it may not be exterminated by ruthless persecution. — CHARLES B. HORSBROUGH (Martock, Somersetshire).

Waxwing at Scarborough. — On Nov. 23rd I saw a Waxwing (*Ampelis garrulus*) feeding on the haws of a thorn-hedge near Oliver's Mount, Scarborough. The bird was very tame, and allowed me to watch it for some time. The berries on which it was feeding were swallowed whole, and, from the rapidity with which it ate, it must have been very hungry. Owing to the absence of a black throat, I judged it to be a bird of the year. The easterly gales of the previous week had no doubt something to do with its presence in this country. A. H. MEIKLEJOHN (20, Queen's Square, London).

Notes on the Swift and the Number of Days taken in Incubation. In some notes on this bird (Zool. 1900, pp. 479-81) I was unable in that year to give the exact number of days taken in the incubation of the eggs, owing to my absence from home during several days whilst the birds were in course of observation. During the present year I was similarly unfortunate, the eggs having been laid some days earlier than last year. This necessitated the robbing of the first laying.

April 20th.—First Swift observed flying over Wyre Forest, Bewdley; remarkably early.

June 2nd.—Two eggs taken from the nest in the roof of my house at Clent.

June 10th (7 a.m.).—Nest still remains empty.

June 11th (7 p.m.).—One egg in nest; both birds in nesting-hole, but I do not think incubation has actually started.

June 12th (7.15 a.m.).—One egg only in nest, and one of the birds in the nesting-hole.

June 18th (7.15 a.m.).—One egg. 6.15 p.m. Two eggs, and Swift evidently now sitting.

July 1st (9 p.m.).—One young and one egg in nest.

July 2nd (6.30 a.m.).—Two young in nest.

August 15th (7 p.m.).—One young, if not both, have left the nest, as only one bird occupies the nesting-hole, and possibly that one of the old birds.

August 16th (7 a.m.).—Nest empty.

August 18th.—Last Swift seen on the wing in this village.

September 2nd.—A Swift seen in the adjoining parish, at Lower Hagley ; an unusually late occurrence.

From the above notes the time of incubation seems to be at least eighteen days, and during the present year the young did not leave the nest until six weeks, three days. In comparison, I might add that three out of a nest of four young Swallows were able to leave a nest situated in my outbuildings in three weeks, two days, or almost in exactly half the time.—J. STEELE-ELLIOTT (Clent, Worcestershire).

American Yellow-billed Cuckoo (*Coccyzus americanus*) at Ringwood.—On Oct. 26th a gentleman told me he had, whilst standing on one of the bridges watching some Pike-fishers, seen a strange bird settle upon and apparently scrutinize a bush at no very great distance from him. His description was that the bird was about the size of a Thrush, but seemed to have more the colour of the Nightingale on its sides, and a very long tail. As the late owner of Avon Castle had, a few years ago, liberated a number of Australian birds of various species, I supposed this might have been one of the very few survivors—if, indeed, any still survive—although I had no reason to suspect any bird answering the description had obtained its freedom. On Oct. 30th a specimen of the above-named Cuckoo was shot about half a mile from the spot, but whether the same bird it is impossible to say. I saw it soon after it was killed, and I may note the following particulars : Except where shot through the neck, the plumage appeared to be perfect, with no sign of abrasion either of wings or tail, as are seen in an "escape," and the body was fat and well conditioned, weighing just over $2\frac{1}{2}$ oz. ; it measured $11\frac{3}{4}$ in. from beak to tail ; the third quill-feather, the longest in the wing, being $5\frac{3}{8}$ in. from tip to carpal joint. Under mandible and base and sides of the upper, yellow ; rest of the beak black. Eyes dark brown ; eyelids bright yellow, reminding one of the Blackbird's. Back and two middle tail-feathers dark mouse-colour, with a tinge of reddish, especially on the tail ; four outer feathers on either side blackish, with graduated dirty white markings,

the longest being merely and indistinctly tipped, and the shortest and outermost white its entire length, at least on the outer web. The reddish tawny mark in the wing was large and conspicuous, even when the wings were closed; but this may be a sexual characteristic, as on dissection it proved to be a male. The under parts from beak to tail were of an uniform pale grey, with a slight tinge of brown on the breast and sides. The legs (which were conspicuously longer than in the common *Cuculus canorus*, from the thigh-feathers to the toes) were bluish lead-colour, with a sort of silvery bloom on them, which latter soon faded; the claws were black, and it seemed to me the scales on the legs were remarkably large, as only five in number occupied the bare space. I should have mentioned, perhaps, that the beak was longer and more decurved than in the common species, and the inside of beak, which is well known to be bright orange-yellow in *C. canorus*, was conspicuously spotted with black, especially on the lower part of the palate, in the American bird. The tongue also had black markings on it. The bird had been feeding freely upon the grubs of some saw-fly, as the distended gizzard proved, the dark heads and spotted skins of the grubs being unmistakable. I had observed very similar, if not identical, grubs a few days previously upon a rose-tree, and wondered if the comparatively mild autumn had been favourable to the development of these particular flies, as several months ago the same tree was almost stripped of its leaves by what I suppose was the same species of larva. From the few ornithological works to which I have access, it seems that this wandering bird is only a straggler to these islands, and only in the autumn, mostly in October. The occurrence of this species in Hampshire is not exactly a first record, as a specimen is reported to have been found dead in the Isle of Wight in 1896 (Zool. 1897, p. 142), but no measurements or particulars of the bird were given except that it was a male. In 'The Zoologist' for 1895, p. 376, Mr. Harting gave us a lucid description, and some interesting notes on a specimen which had been picked up dead in Dorsetshire—this also in the month of October; and of the southern counties, Devon and Cornwall claim the species in their county list of birds.

Since writing the foregoing, I showed the bird to a man who is often near the river with his gun, and without hesitation he said he saw the bird, or another like it, more than a month ago, one evening when he was out duck-shooting, and should have killed it but for the large shot in his cartridges. This was some distance from where the bird was shot, so there might have been more than one in the vicinity. G. B. CORBIN (Ringwood, Hants).

Correction.—In a previous communication (*ante*, p. 428, three

lines from bottom), for "pink chocolate" read "pale chocolate."—(G. B. C.)

Little Owl at Henley.—I do not know what may be thought of the status of the Little Owl (*Athene noctua*) as a migrant, but I saw one to-day (Nov. 7th), shot yesterday at Wyfold Court, near Henley, Oxon. I do not think it is mentioned in Mr. Aplin's 'Birds of Oxfordshire.'—G. W. BRADSHAW (54, London Street, Reading).

Circus cineraceus in Northamptonshire.—A Montagu's Harrier in the plumage of the first year was shot at Whittlebury, near Towcester, about the middle of April, 1901, and came into my possession some months later. I am inclined to think it is a female. The late Lord Lilford only mentions ('Birds of Northamptonshire') one instance of the occurrence of this species in the county.—O. V. APLIN (Bloxham, Oxon).

Peregrine Falcon in Berkshire.—On Nov. 2nd last, a very fine adult Peregrine Falcon (*Falco peregrinus*) was shot at Aston Uphorne, near Wallingford, Berks, while being mobbed by Rooks. It was brought to me in the flesh.—G. W. BRADSHAW (54, London Street, Reading).

The Ringed-necked Duck as a British Bird.—I cannot understand why the Ringed-necked or Collared Duck should, by almost universal custom, be excluded from the number of accidental visitors on the list of British Birds. Donovan, in his 'Natural History of British Birds' (vol. vi. 1809), states that a specimen occurred to him in the month of January, 1801, among a number of wildfowl exposed for sale in Leadenhall Market. It was a male, and was supposed to have been taken in the fens of Lincolnshire. More than one species (*e. g.* the American Wigeon) has been admitted into the British list on claims no stronger than this. We may safely assume that a hundred years ago no wildfowl came imported for the table into the London market from the other side of the Atlantic. There can be no question about the bird having been correctly identified, for we have Donovan's coloured plate (No. 147) of this handsome Duck to refer to. The Ringed-necked Duck was at that date not merely a new British bird, but altogether undescribed. Donovan was accordingly the original describer of this species, and the name he then bestowed upon it still stands. *Fuligula collaris* (Donovan) is its name in the new Hand-List of Birds. This Duck, therefore, like *Botaurus lentiginosus*, is an American species first described from an example which had accidentally occurred in Europe. The Ringed-necked Duck has a wide distribution, and ranges, according to Dr. Elliot ('The Wildfowl of North America'), over the whole

of North America, from the Arctic Sea to Guatemala and the West Indies. Coues states ('Key to North American Birds') that it breeds from the north border of the United States to the far North, and winters in and migrates through the United States to Central America and the West Indies.—O. V. APLIN (Bloxham, Oxon).

Notes from Suffolk.—On Nov. 11th I visited the shop of a bird-stuffer in Woodbridge, and saw the following interesting specimens :—
1. A hybrid between the Blackcock and Pheasant. General plumage similar to that of a young Blackcock, and with the lyre-shaped outer tail-feathers just commencing to appear. Legs and feet not feathered, and distinctly those of a Pheasant. The bird, which was in immature plumage, was shot near Woodbridge this season, and is accounted for from the fact of a gentleman residing at Ipswich having turned down some black-game in that neighbourhood. A grey hen was found dead on the same ground a few days afterwards, which, although in good condition, appeared to have died from natural causes. 2. A hen Pheasant, shot near Woodbridge this season, in fawn-coloured plumage. 3. Two Montagu's Harriers, both males in full breeding plumage, killed in the summer of this year near Woodbridge by some unscrupulous keeper, notwithstanding the protection they are entitled to under the Wild Birds Protection Act.—E. A. BUTLER (Plumton House, Bury St. Edmunds, Suffolk).

Notes from Scarborough.—On October 2nd a fine pair (male and female) of Sooty Shearwaters (*Puffinus griseus*) were shot at sea, a few miles from Scarborough, by one of the crew of a Scotch herring-boat, and brought to me. Judging from the development of the sexual organs they were adult. This fine Shearwater has not previously come under my notice in this district. Another unusual species here, which has been noticed this season, is the Sandwich Tern (*Sterna cantiaea*), of which several examples have been seen, and three shot. This is also new to my list of local birds. Other interesting birds which have occurred at or near Scarborough this year are Montagu's Harrier (*Circus cineraceus*), caught in a post-trap in April last, and an adult Black Tern (*Hydrochelidon nigra*), shot on the Osgoodby Reservoir in the same month.—W. J. CLARKE (44, Huntriss Row, Scarborough).

Notes from Redcar, Yorks.—On Nov. 13th I procured, near Redcar, a fine immature male example of the Black Guillemot (*Uria grylle*). The same day several hundreds of mature Kittiwakes passed Redcar, going southwards. The weather was very stormy, and the birds had a hard battle against the strong north-east wind. On Nov.

15th I had brought me for inspection an immature Grey Phalarope (*Phalaropus fulicarius*), which had been shot on Coatham Sands, Redcar, on Nov. 14th. This bird proved upon dissection to be a female.—STANLEY DUNCAN (Redcar, Yorks).

Icelandic Names of Birds.—In the paper on my Icelandic journey (*ante*, pp. 401–419), the orthography of some of the Icelandic names of the birds is wrong, through no fault of mine, but, I presume, in consequence of the printers being unable to supply the proper letters. As an illustration, the Icelandic letter which looks somewhat like our P is a Th, with the result that the name of the Meadow-Pipit (*Anthus pratensis*) is not Pufutitlingur, but Thufutitlingur. For many years the name of the lake in the south of Iceland was printed in most English publications as “Pingvella”; its proper name is “Thingvetla.”—F. COBURN (Holloway Head, Birmingham).

[New type would have been required to print the Icelandic letters, and, even if the printers had been prepared to supply the same, time would not have sufficed, Mr. Coburn being very anxious for his paper to appear in the November issue.—ED.]

AVICULTURE.

Leadbeater's Cockatoo breeding in England.—By the kindness of a neighbour, who probably possesses one of the finest private collections of living *Psittacidae* in this country, I was shown the other day three young Leadbeater's Cockatoos (*Cacatua leadbeateri*), which were hatched in the aviary last June. Two pairs of these birds are at liberty with many other species in a large outdoor aviary, constructed on the lines of the well-known aviary at the “Zoo,” and one pair selected an old hollow elm stump as a nesting-place. The cavity is nearly a yard deep, and in June three young birds were brought out at intervals of two days. These are now fine healthy birds, quite as big as their parents, but, so far as I could see in the failing light of a November day, rather duller in colour. Their owner believes them to be the first of their species reared in Europe, and would, I am sure, be much interested to hear of any similar instance, if such is known to any of your readers.—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

Storm Petrel in Confinement.—Seeing some rough fishermen gathered in a group upon the Fish Wharf at Great Yarmouth on Oct. 16th, I naturally drew up, and to my amusement heard an animated and quaint discussion upon a poor little Petrel (*Procellaria pelagica*), whose tiny head peered out of a pastry bag, the mouth of which was

wisped around the neck like the trimmings around the foot end of a ham. After an exorbitant demand, the captor, on whose fishing boat the tired-out bird had alighted, parted with it for a shilling. I took it home, and after much persuasion succeeded in making it "suck" down a small quantity of herring milt, thrusting its bill in it up to the nostrils. Two or three attempts at this made the Petrel appreciate its meal, and it soon pecked the roe held upon my finger, next day feeding itself from a milt placed within its reach in my greenhouse. It was exceedingly eager to hide, and occasionally would run to and fro, carrying its wings erect and at an acute angle. When excited it uttered a peepy cry, very like that of a young Turkey. I had some hopes of rearing it, but it had evidently been too exhausted from the first to recover. It died within a week. Another was landed the day after I purchased mine. This species is nowadays very seldom seen in this neighbourhood. The only other interesting "arrivals" at the wharf, so far during this fishing, have been a Great Grey Shrike (*Lanius excubitor*), that came in on Oct. 31st, and which died just before it reached me.—ARTHUR PATTERSON (Ibis House, Great Yarmouth).

REPTILIA.

The Sand-Lizard in Berkshire.—Referring to Mr. W. H. Warner's note concerning the Sand-Lizard (*Lacerta agilis*) (*ante*, p. 392), the writer inquires whether the Sand-Lizard is known to occur in Berkshire. I may say that for many years I have been especially interested in this Lizard. Several years ago I took a small female among the furze at Cookham Dean, near Maidenhead. This was practically on the border between Berks and Bucks. I have also taken them on Maidenhead Thicket, though rarely. Across the river, in certain parts of Burnham Beeches, they are sometimes very plentiful. I think this lively little reptile may be met with in most parts, at any rate, of East Berkshire, though nowhere have I found it so common as on our south-western coasts. I remember, however, several years ago finding a large number at Southend-on-Sea. From my own experience it is far commoner and more widely distributed than the so-called Common Grass Lizard.—ERNEST S. LUMSDEN (Reading, Berkshire).

INSECTA.

Mosquitoes at Scarborough.—During the past three years local field naturalists have been plagued with swarms of Mosquitoes in several damp localities near Scarborough. These have this year been present in greatly increased numbers, and in several new localities,

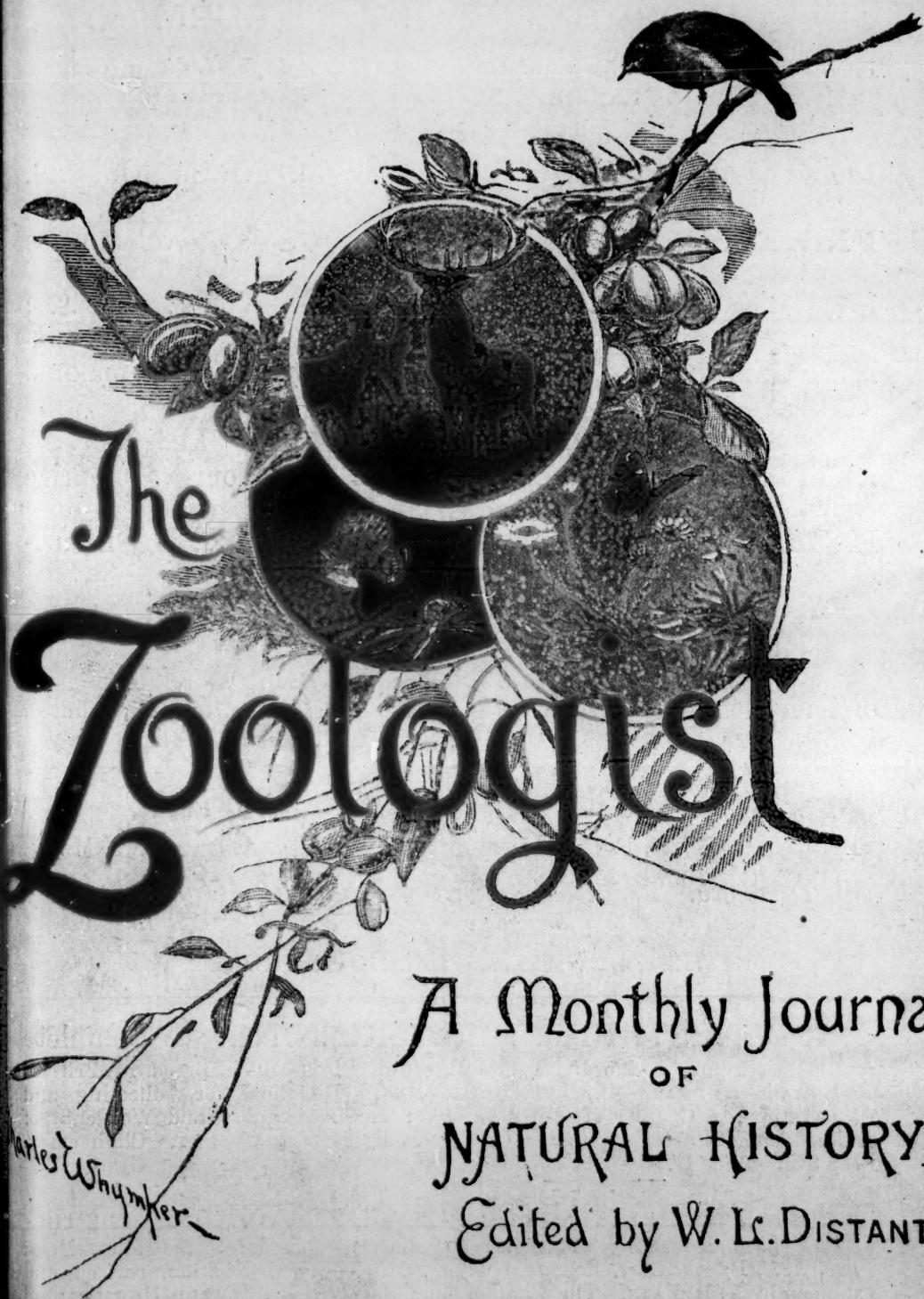
and have in several instances penetrated into the town. I captured a number of these and sent them to Dr. G. Nuttall, of Cambridge, who has kindly identified them as *Culex annulatus*. The bite is very severe.—W. J. CLARKE (44, Huntriss Row, Scarborough).

BIOGRAPHY.

The Water Chanter of Turner.—William Turner, the first British naturalist of mark, was an accomplished physician as well as a member of Parliament. His residence at Wells enabled him to study the effects of the waters of Bath, and even to stay with patients in the latter city. He counselled close attention to diet, and advocated the use of Rhine wines. He approved of his Bath patients dining on small birds in general; "but *Water chanters* ye must not eat." Was the *Water chanter* identical with *Cinclus aquaticus*? He speaks of the latter bird as a "Water Swallow"; but perhaps he had heard both names employed to denote the same species. I should like to qualify my statement (*supra*, p. 379) that Turner "died a disappointed man." That the bitter disappointments which he experienced in middle life may have served to embitter his last years is not unlikely. He had returned home on the accession of Edward VI., after spending the best years of his life upon the Continent, with the full expectation that his talents would be recognized, and a high place assigned to him. But though he humbled himself to beg for preferment, he had some time to wait before he could secure the Deanery of Wells. Though he was obliged to accept it for family reasons, it brought him fresh worry. His predecessor was unwilling to give up his Deanery, and received the sympathy of the canons of the cathedral, who did not relish having a stranger thrust in upon them. Turner was once nominated for the Provostship of Oriel College, Oxford, as well as for the Presidency of Magdalen. Had he received the former appointment, Oriel would have been able to claim among the members of the college three illustrious naturalists—Turner, Thomas Pennant, and Gilbert White.—H. A. MACPHERSON (The Rectory, Pitlochry).

[A melancholy interest attaches to the above note, which was dated the 23rd November, and its writer passed away on the 26th—three days subsequently. "What shadows we are, and what shadows we become." In a letter received with this note, Mr. Macpherson discussed a future paper he was intending to write for 'The Zoologist.' We hope to give a full obituary notice of our old and much respected contributor in the next issue of the 'Zoologist.'—ED.]





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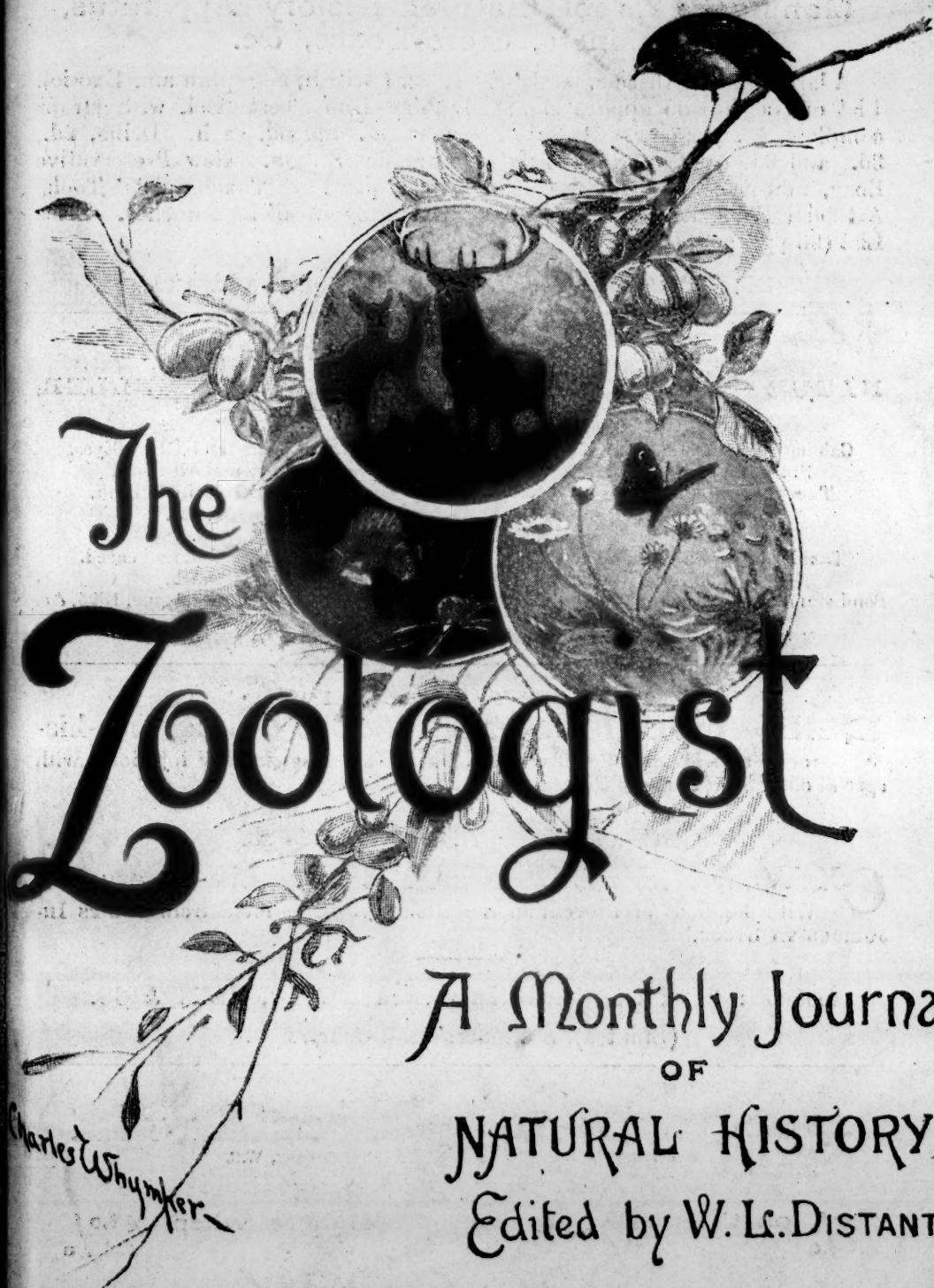
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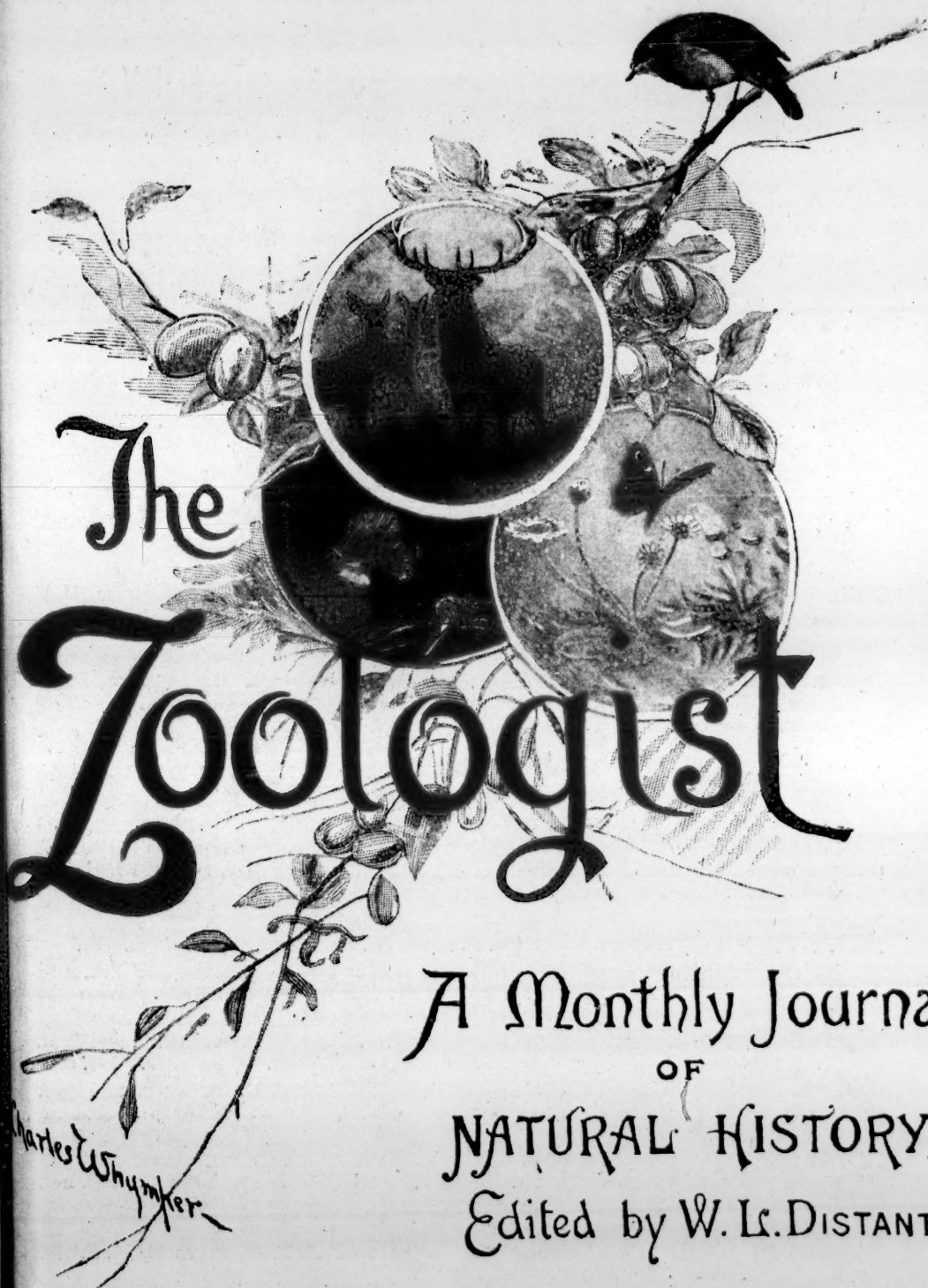
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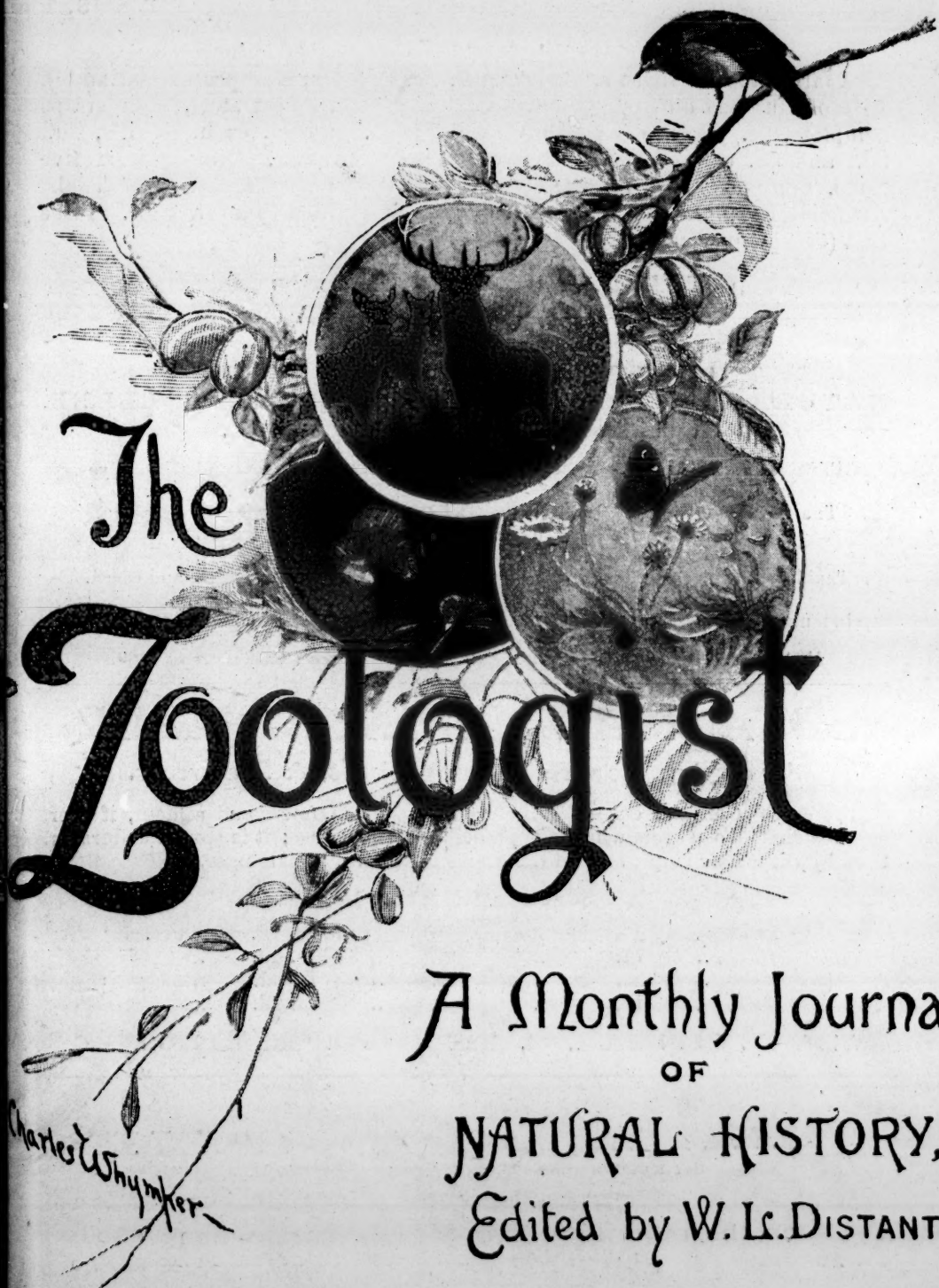
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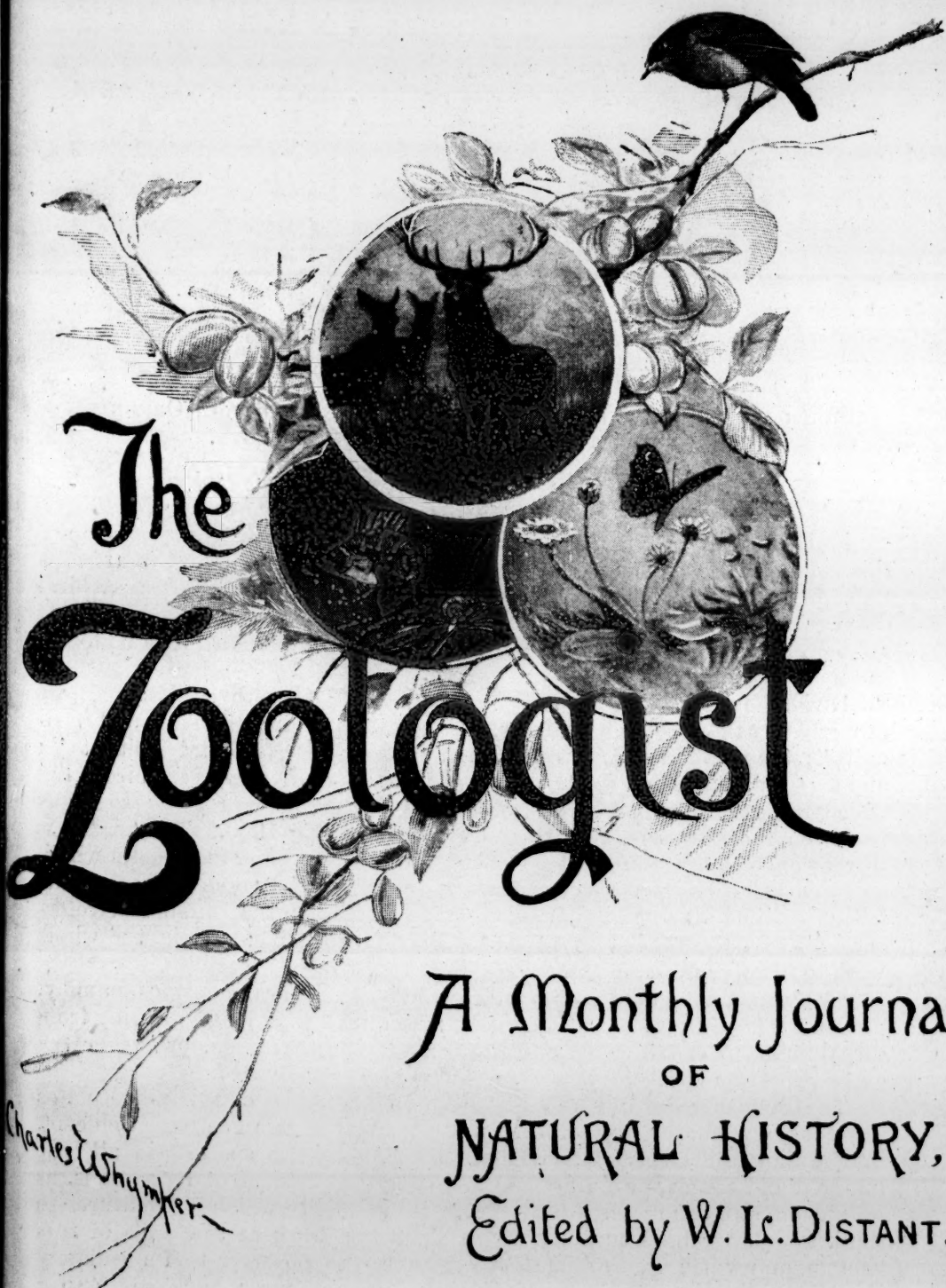
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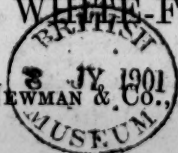
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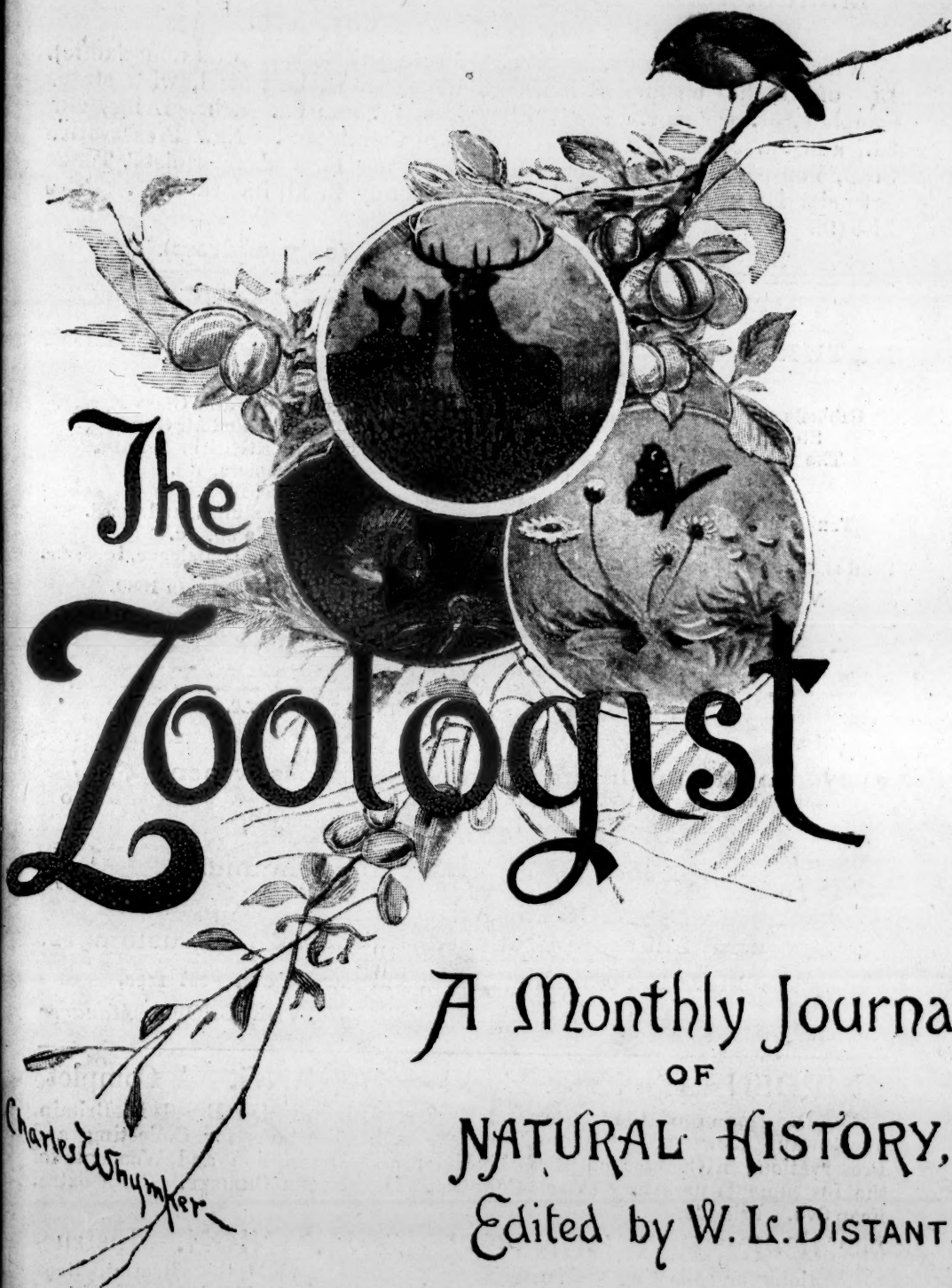
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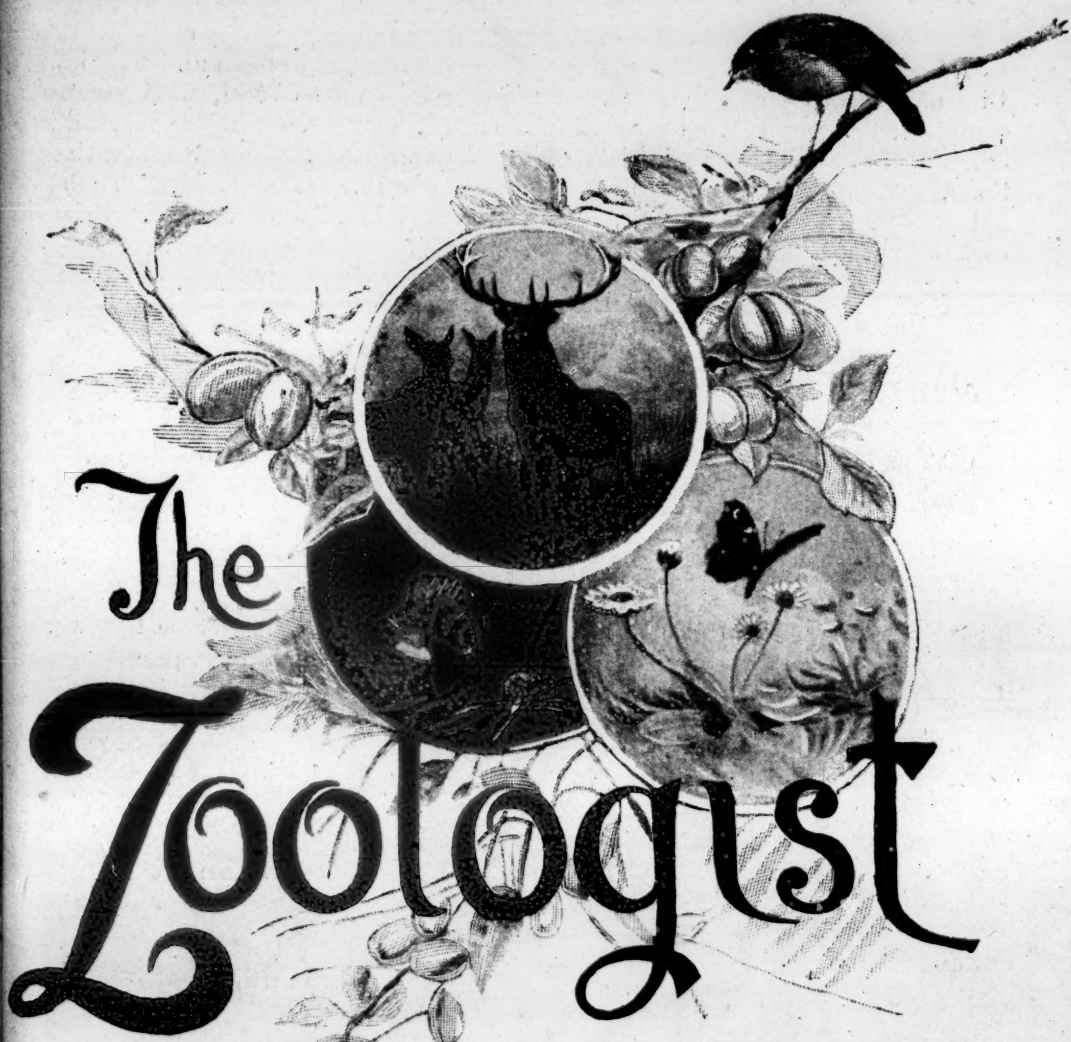
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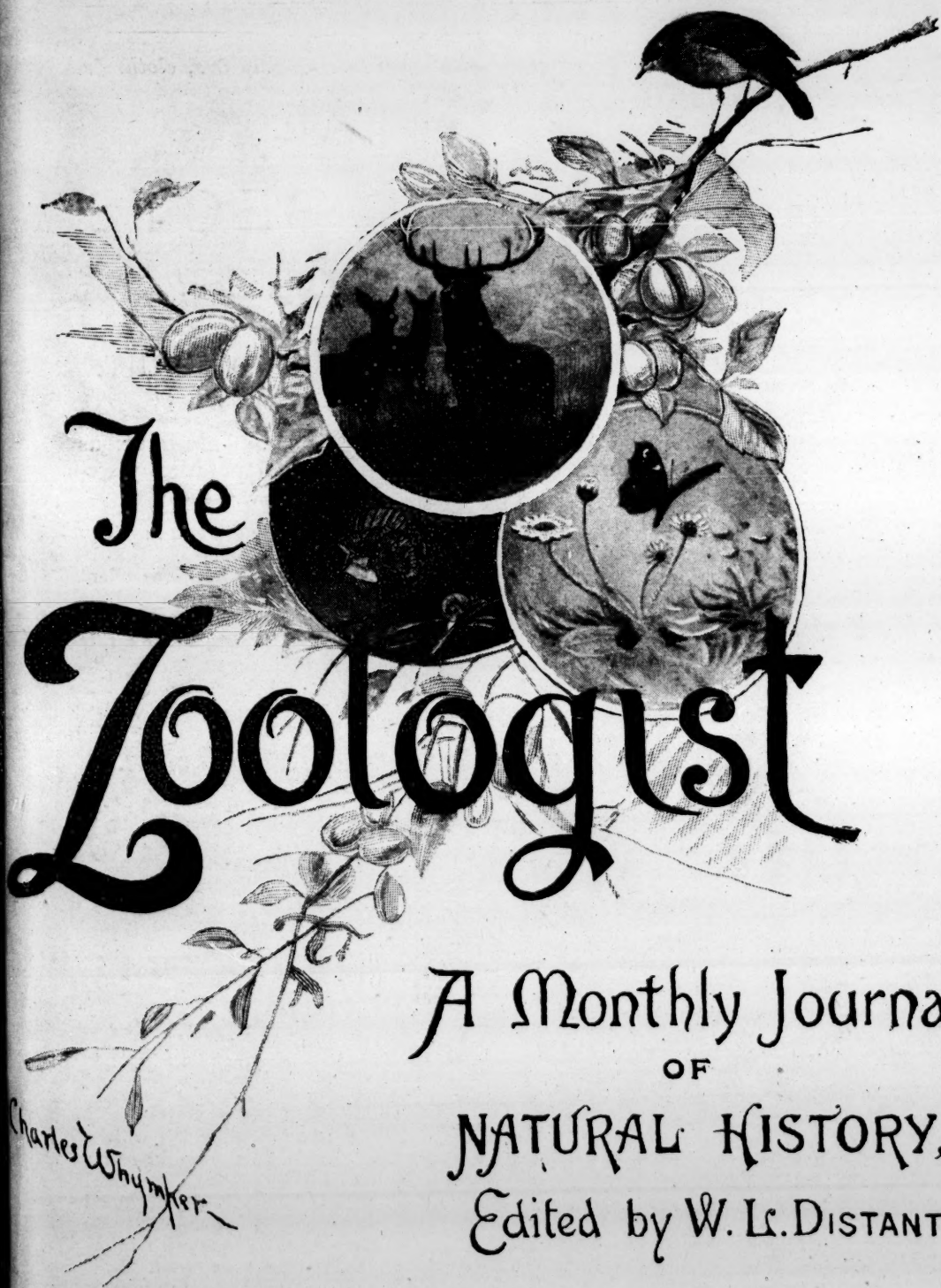
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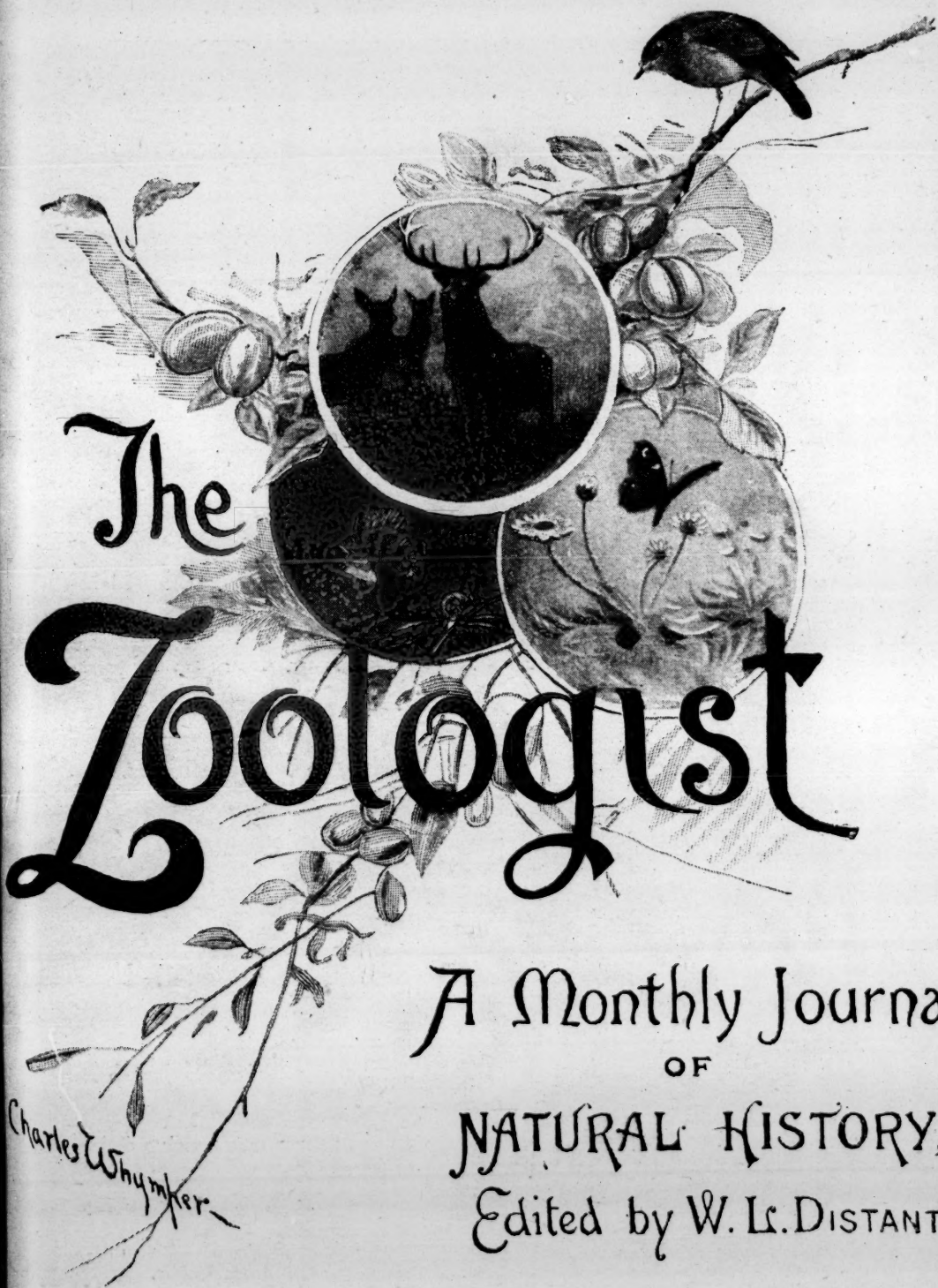
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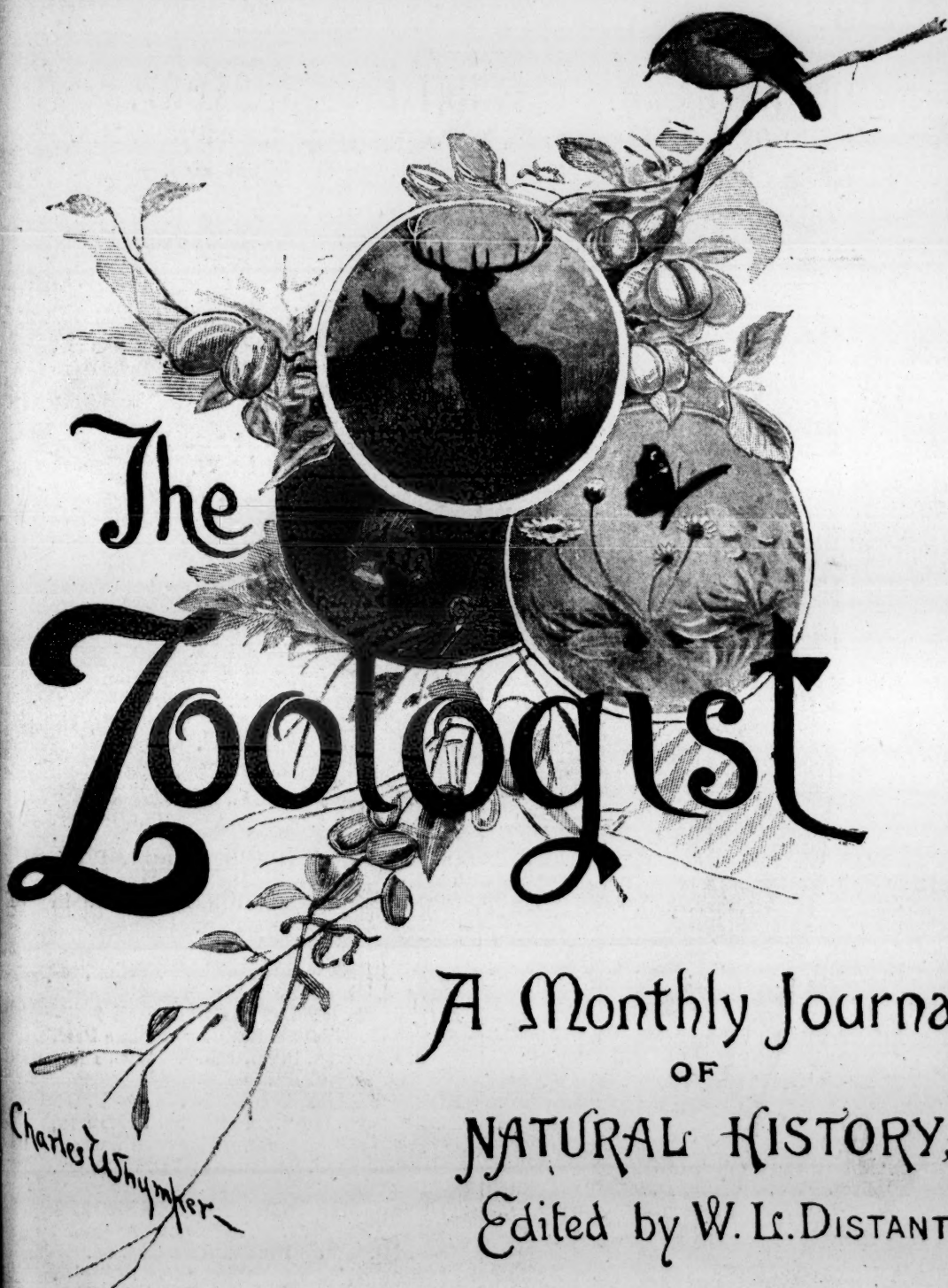
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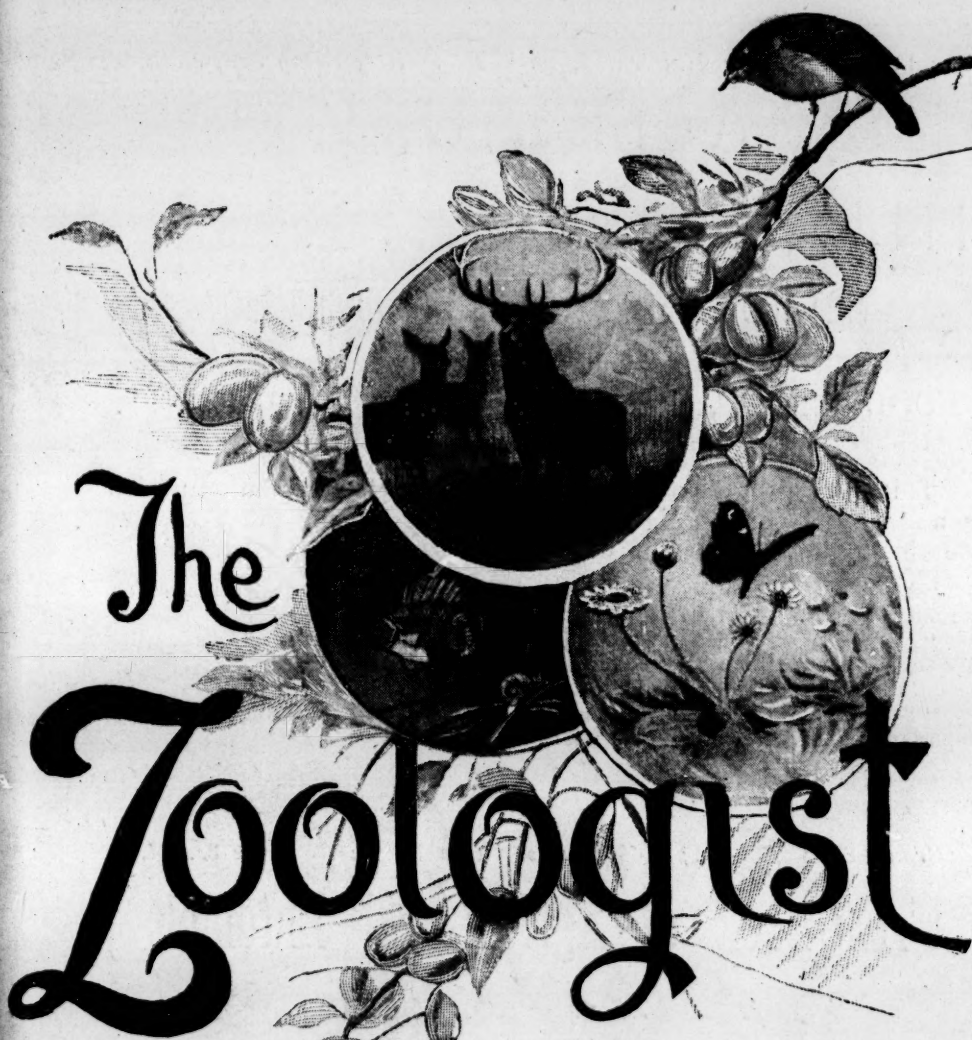
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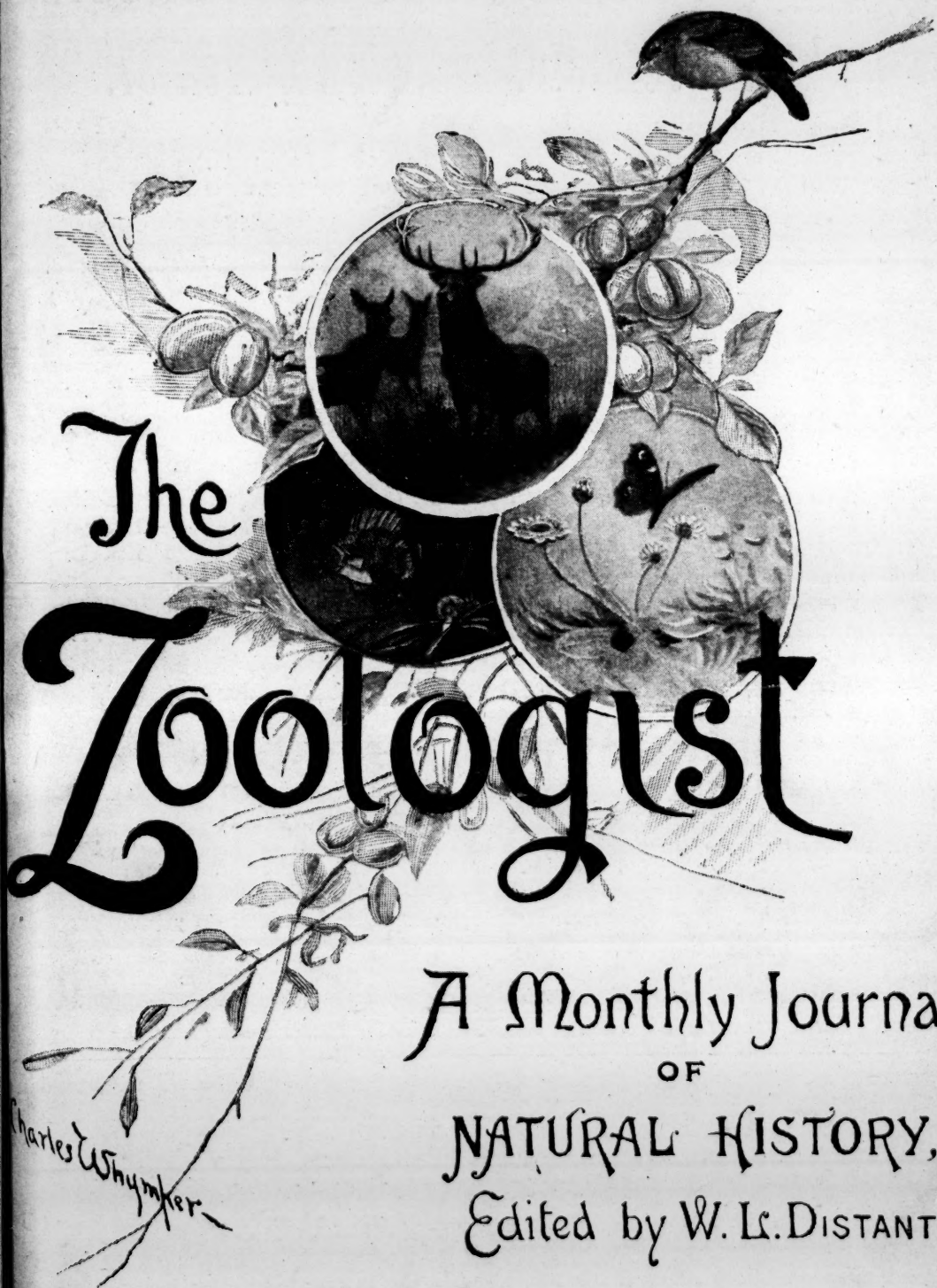
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